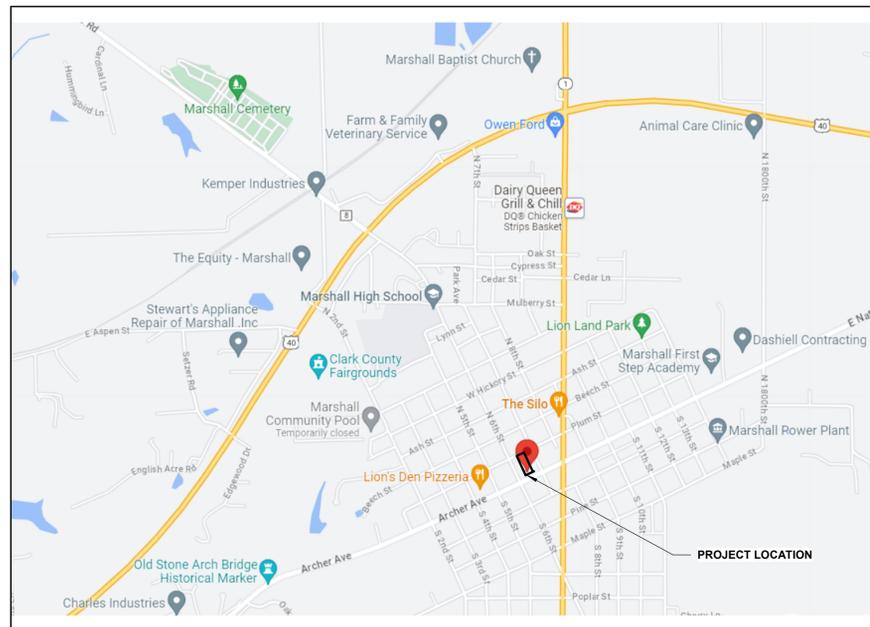


THE CITY OF MARSHALL
MARSHALL PUBLIC LIBRARY
PHASE II RENOVATIONS
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LOCATION MAP



PROFESSIONAL SEALS

THE PORTION OF THIS TECHNICAL SUBMISSION DESCRIBED BELOW WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION. I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF ILLINOIS.

SIGNATURE: _____
NAME: _____
DATE: _____
LICENSE RENEWAL DATE: _____

PAGES OR DIVISIONS COVERED:
ALL "A" DRAWINGS

THE PORTION OF THIS TECHNICAL SUBMISSION DESCRIBED BELOW WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION. I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF ILLINOIS.

SIGNATURE: *Dustin K. Sweet*
NAME: Dustin K. Sweet
DATE: 11/10/2023
LICENSE RENEWAL DATE: 11/30/2024

PAGES OR DIVISIONS COVERED:
ALL "STRUCTURAL" DRAWINGS

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SIGNATURE: *Dustin R. Rhoades*
NAME: Dustin R. Rhoades
DATE: 11/10/2023
LICENSE RENEWAL DATE: 11/30/2023

PAGES OR DIVISIONS COVERED:
ALL "P" AND "M" DRAWINGS

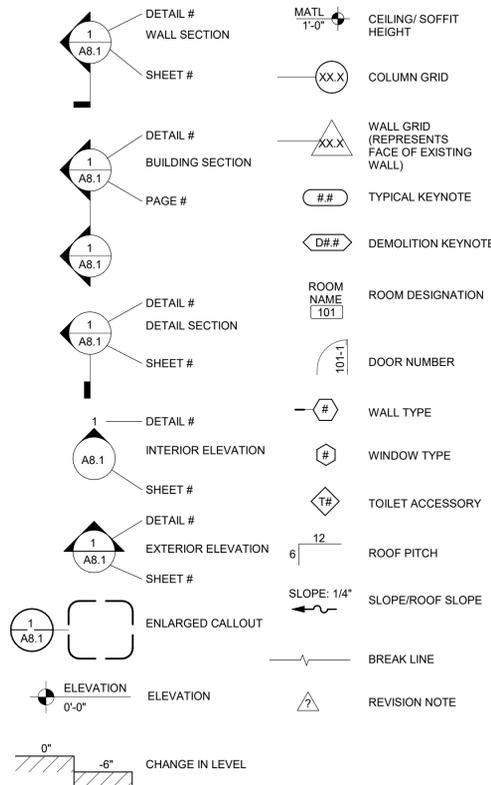
THE PORTION OF THIS TECHNICAL SUBMISSION DESCRIBED BELOW WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION. I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF ILLINOIS.

SIGNATURE: *Warren Ray Kohm*
NAME: Warren Ray Kohm
DATE: 11/9/2023
LICENSE RENEWAL DATE: 11/30/2025

PAGES OR DIVISIONS COVERED:
ALL "E" DRAWINGS

SYMBOLS LEGEND

NOTE: NOT ALL SYMBOLS ARE USED IN CONSTRUCTION DOCUMENTS



ABBREVIATIONS

AFF	AC/PC	AC	ADJ	ADTL	AGG	ALT	AL	APPROX	ASPH	AUTO	B/O	BD	BLDG	BLKG	BOT	BRG	C	C/C	CJ	CLL	CEM	CMU	CLS	CLR	COL	CONC	CONST	CONT	CPT	CT	CTR	DF	DS	DBL	DEG	DEMO	DET/DTL	DIA	DIM	DN	DWG(S)	E	EC	EHO	EJ	EW	EA	EIFS	EL	ELEC	ELEV	EMER	EQ	EQUIP	EXIST	EXT	EWC	FD	FE	FFE	FV	FEC	FDN	FIN	FLSHG	FLR	FRMG	FT	FTG	GC	GA	GALV	GEN	GYP	HM	HDWR	HOL	HOR	HT	HVAC	IDPH	ID	IN	INCL	INSUL	INT	JAN	JT	LAV	LBS(S)	LS	LT	LTR	MO	MAS	MAT'L	MAX	MECH	MFR	MIN	MISC	MTD	MTL	N	NIC	NTS	NOM	OC	OD	O TO O	OPNG	OPP	OVHD	PEB	PJF	PT	PERIM	PL	PLAM	PLUMB	PLYWD	PNT	PAIR	PTD	PWR	RD	ROOF	RO	RAD	REC	REINFC	REQ'D	REV	RM	S	SB	SF	SS	SIM	SPEC	SQ	STD	STL	STOR	STRUC	SUSP	T&G	T/O	TELE	TRTD	TS	TYP	UNFIN	UNO	VCT	VIF	VERT	W	WI	W/O	WC	WWF	WD	WH	WT
ABOVE FINISHED FLOOR	ACROUSTIC CEILING PANEL/ACROUSTIC PANEL CEILING	ADJUSTABLE TILE	ADDITIONAL	AGGREGATE	ALTERNATE	ALUMINUM	APPROXIMATE(LY)	ASPHALT	AUTOMATIC	BOTTOM OF BOARD	BUILDING BLOCKING	BOTTOM BEARING	CENTERLINE	CENTER TO CENTER	CONTROL JOINT	CONTRACT LIMIT LINE	CEMENT(ITIOUS)	CONCRETE MASONRY UNIT	CEILING	CLEAR	COLUMN	CONCRETE	CONSTRUCTION	CONTINUOUS	CARPET	CERAMIC TILE	CENTER(ED)	DRINKING FOUNTAIN	DOWNSPOUT	DOUBLE	DEGREE	DEMOLITION	DETAIL	DIAMETER	DIMENSION	DOWN DRAWING(S)	EAST	ELECTRICAL CONTRACTOR	ELECTRICAL HOLD OPEN	EXPANSION JOINT	EACH WAY	EACH	EXTERIOR INSULATION FINISH SYSTEM	ELEVATION	ELECTRIC(AL)	ELEVATOR	EMERGENCY	EQUAL	EQUIPMENT	EXISTING	EXTERIOR	ELECTRIC WATER COOLER	FLOOR DRAIN	FIRE EXTINGUISHER	FINISH FLOOR ELEVATION	FIELD VERIFY	FIRE EXTINGUISHER CABINET	FOUNDATION	FINISH	FLASHING	FLOOR	FRAMING	FOOT/FEET	FOOTING	GENERAL CONTRACTOR	GAUGE	GALVANIZED	GENERAL	GYP	HOLLOW METAL	HARDWARE	HOLLOW	HORIZONTAL	HEIGHT	HEATING/VENTILATION/AIR CONDITIONING	ILLINOIS DEPARTMENT OF PUBLIC HEALTH	INSIDE DIAMETER	INCH	INCLUDING	INSULATION	INTERIOR	JANITOR	JOINT	LAVATORY	POUNDS(S)	LANDSCAPE	LIGHT	LONG-TERM THERMAL RESISTANCE	MASONRY OPENING	MASONRY	MATERIAL	MAXIMUM	MECHANICAL	MANUFACTURER	MINIMUM	MISCELLANEOUS	MOUNTED	METAL	NORTH	NOT IN CONTRACT	NOT TO SCALE	NOMINAL	ON CENTER	OUTSIDE DIAMETER	OUT TO OUT	OPENING	OPPOSITE	OVERHEAD	PRE-ENGINEERED BUILDING	PERFORMED JOINT FILLER	PRESSURE TREATED	PERIMETER	PLATE	PLASTIC LAMINATE	PLUMBING	PLYWOOD	PAINT	PAIR	PAINTED	POWER	RUBBER BASE	ROOF DRAIN	ROUGH OPENING	RADIUS	RECESSED	REINFORCED	REQUIRED	REVISED (REVISION)	ROOM	SOUTH	SPLASH BLOCK	SQUARE FEET	STAINLESS STEEL	SIMILAR	SPECIFICATIONS	SQUARE	STANDARD	STEEL	STORAGE	STRUCTURAL	SUSPENDED	TONGUE AND GROOVE	TOP OF	TELEPHONE	TREATED	TUBE STEEL	TYPICAL	UNFINISHED	UNLESS NOTED OTHERWISE	VINYL COMPOSITION TILE	VERIFY IN FIELD	VERTICAL	WEST	WITH	WITHOUT	WATER CLOSET	WELDED WIRE FABRIC	WOOD	WATER HEATER	WEIGHT					

GENERAL NOTES

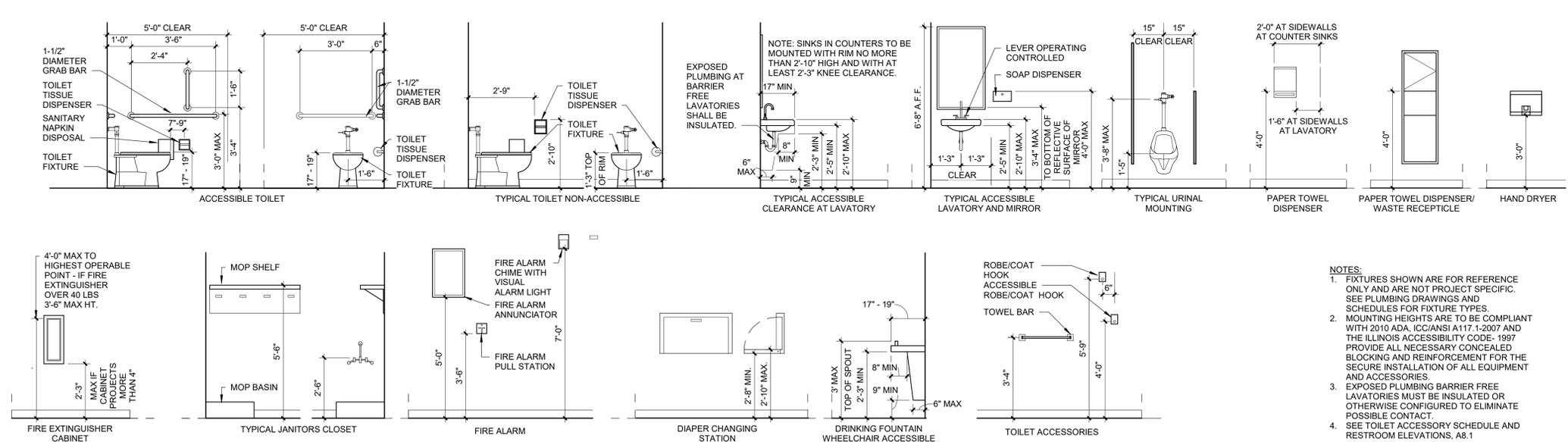
- REFER TO LIFE SAFETY SHEETS FOR LIFE SAFETY INFORMATION.
- CONTRACTOR TO PROVIDE ALL ADDITIONAL FRAMING NECESSARY FOR ALL OPENINGS AND SUPPLEMENTAL FRAMING ABOVE PARTITIONS.
- CONTRACTOR SHALL COORDINATE WITH OTHER TRADES FOR SYSTEM RELATED PENETRATIONS NOT SHOWN.
- CONTRACTOR SHALL MAINTAIN THE BUILDING IN A WEATHERPROOF CONDITION AT ALL TIMES.
- PROJECTS SHALL REMAIN IN COMPLIANCE WITH ALL ASPECTS OF ALL GOVERNING CODES AND ORDINANCES DURING THE COURSE OF CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, EXITING, FIRE ALARM SYSTEM(S), SMOKE/FIRE DETECTION SYSTEM(S).
- TEMPORARY BARRICADES AS PERTAINING TO CONTRACTOR'S ACTIVITIES SHALL BE INSTALLED TO PREVENT POSSIBLE INJURY TO PERSONS IN AND AROUND DEMOLITION AND CONSTRUCTION AREAS IN ACCORDANCE WITH OSHA REQUIREMENTS. COORDINATE WITH OWNER.
- ALL AREAS TO BE DEMOLISHED OR DISTURBED BY ANY DEMOLITION ARE TO BE PATCHED AND PAINTED (OR PREPARED FOR OTHER SCHEDULED FINISH). IF PAINTING IS REQUIRED, ENTIRE WALL SHALL RECEIVE PATCH TO AVOID MISMATCH OF COLOR.
- ALL OPENINGS AND VOIDS LEFT BY THE REMOVAL OF EXISTING CONSTRUCTION, EQUIPMENT, PIPING, DUCTS, ETC. SHALL BE PROPERLY PATCHED AND CLOSED OFF TO MAINTAIN PROPER FIRE RATING IN AFFECTED WALL, FLOOR, OR ROOF. PREPARE PATCHED AREAS TO RECEIVE NEW FINISHES AS SCHEDULES (OR MATCH EXISTING FINISHES IF NOT OTHERWISE IDENTIFIED).
- WHEN PATCH OF EXISTING FLOOR IS REQUIRED, SLOPING OR RAMPING IN EXCESS OF CONTRACT TOLERANCES WILL NOT BE ALLOWED (1/8" PER 10 FEET MAXIMUM).
- UPON REMOVAL OF TEMPORARY PARTITIONS, CONTRACTOR IS RESPONSIBLE FOR PATCHING TO MATCH EXISTING ADJACENT CONSTRUCTION.
- AT CONSTRUCTION ACCESS, CONTRACTOR TO PROVIDE LABOR AND MATERIALS TO REPAIR ALL DISTURBED ELEMENTS.
- REMOVAL OF CERAMIC TILE AND GROUT BEDS FROM EXISTING WALLS AND FLOOR SHALL INCLUDE PREPARATION FOR NEW CONSTRUCTION.
- IT IS THE RESPONSIBILITY OF EACH CONTRACTOR TO PROVIDE COMPLETE WORKING SYSTEMS FOR ALL NEW ELEMENTS AND TO COORDINATE THEIR WORK WITH ALL OTHER TRADES.
- ALL CONTRACTORS SHALL PROVIDE NEW, UNMOUNTED MATERIALS UNLESS OTHERWISE SPECIFIED.
- STORE MATERIALS IN SUCH A MANNER AS NOT TO OVERSTRESS, OVERLOAD, OR OTHERWISE PUT AN UNSAFE LOAD ON ANY STRUCTURE DURING CONSTRUCTION.
- INSTALL ALL WORK IN ACCORDANCE WITH CURRENT APPLICABLE CODES, PUBLISHED STANDARDS, AND ACCEPTABLE CONSTRUCTION STANDARDS.
- DETAILS ARE GENERALLY TYPICAL AND ARE NOT TO BE CONSTRUED AS LIMITED TO THOSE AREAS SPECIFICALLY INDICATED. REVIEW ANY QUESTIONS OR CONFLICTING INFORMATION WITH THE DESIGN PROFESSIONAL PRIOR TO FABRICATION OR INSTALLATION.
- CONTRACTOR SHALL VERIFY DIMENSIONS IN FIELD PRIOR TO BEGINNING CONSTRUCTION.
- HINGE SIDE OF DOOR JAMBS TO BE LOCATED 4" FROM NEAREST WALL INTERSECTION UNLESS OTHERWISE NOTED.

PROJECT GENERAL NOTES

- REFER TO GENERAL INFORMATION SHEETS FOR SYMBOLS AND ABBREVIATIONS.
- WALLS TO BE REMOVED SHALL BE FROM FLOOR TO STRUCTURE ABOVE UNLESS OTHERWISE INDICATED AND SHALL INCLUDE ALL MECHANICAL, ELECTRICAL, ETC. PREPARE ALL DISTURBED AREAS FOR NEW CONSTRUCTION.
- DO NOT SCALE DRAWINGS TO DETERMINE DIMENSIONS. IF A REQUIRED DIMENSION IS NOT INDICATED, CONTACT THE ARCHITECT FOR DETERMINATION.
- CONTRACTOR SHALL NOT CUT STRUCTURAL MEMBERS/ELEMENTS IN A MANNER RESULTING IN A REDUCTION OF LOAD CARRYING CAPACITY OR LOAD/DEFLECTION RATIO.
- PAINT ALL STEEL DOORS, DOOR FRAMES, INTERIOR BORROW LITE FRAMES, LINTELS AND OTHER EXPOSED METAL ITEMS UNLESS OTHERWISE NOTED OR SHOWN.
- EXISTING CONDITION INFORMATION SHOWN WITHIN THE PROJECT AREA IS BASED ON FIELD OBSERVATION AND EXISTING DRAWING DOCUMENTATION. ALL EXISTING CONDITION INFORMATION SHOWN OUTSIDE THE PROJECT AREA IS PROVIDED FOR REFERENCE ONLY AND HAS NOT BEEN FIELD VERIFIED. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING ANY NEW WORK AND SHALL BRING AND DISCREPANCIES TO THE ATTENTION OF THE DESIGN PROFESSIONAL PRIOR TO DEMOLITION AND CONSTRUCTION.
- STORAGE OF ANY FLAMMABLE OR COMBUSTIBLE LIQUIDS IS UNDERSTOOD TO NOT BE WITHIN THE BUILDING. STORAGE OF ANY MATERIAL IS TO BE IN COMPLIANCE WITH ALL APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION.

DRAWING LIST

GENERAL	G1.0	GENERAL INFORMATION
	LS1.1	FIRST & SECOND FLOOR LIFE SAFETY PLAN
STRUCTURAL	S0.1	GENERAL INFORMATION
	S0.2	GENERAL INFORMATION
	S1.1	STRUCTURAL PLANS
	S1.2	STRUCTURAL PLANS
	S3.1	FOUNDATION DETAILS
	S4.1	FRAMING DETAILS
ARCHITECTURAL	AD1.1	FIRST & SECOND FLOOR DEMOLITION PLAN
	A1.2	FIRST & SECOND FLOOR PLAN
	A6.0	VERTICAL CIRCULATION
	A6.1	VERTICAL CIRCULATION
	A7.1	PARTITION TYPES AND DETAILS
	A7.2	DOOR SCHEDULE, ELEVATIONS & DETAILS
	A9.1	FIRST & SECOND FLOOR REFLECTED CEILING PLANS
INTERIORS	I0.1	GENERAL INFORMATION
	I1.1	INTERIORS FIRST & SECOND FLOOR FINISH PLANS
PLUMBING	P0.1	GENERAL INFORMATION
	P1.1	FIRST FLOOR DWV PLUMBING PLAN
	P1.2	SECOND FLOOR DWV PLUMBING PLAN
	P2.1	DOMESTIC PLUMBING PLAN
	P2.2	ROOF PLUMBING PLAN
	P5.1	DIAGRAMS
	P6.1	SCHEDULES
MECHANICAL	M0.1	GENERAL INFORMATION
	M0.2	SPECIFICATIONS
	M0.3	SPECIFICATIONS
	M0.4	SPECIFICATIONS
	M1.1	FIRST FLOOR VENTILATION PLAN
	M1.2	SECOND FLOOR VENTILATION PLAN
	M1.4	ROOF MECHANICAL PLAN
	M5.1	DIAGRAMS
	M6.1	SCHEDULES
ELECTRICAL	E0.1	GENERAL INFORMATION
	E0.2	GENERAL INFORMATION
	E0.3	SPECIFICATIONS
	E0.4	SPECIFICATIONS
	ED1.1	ELECTRICAL DEMOLITION PLAN
	ED1.2	SECOND FLOOR ELECTRICAL DEMOLITION PLAN
	ED1.3	THIRD FLOOR ELECTRICAL DEMOLITION PLAN
	ES1.1	ELECTRICAL SITE PLAN
	E1.1	FIRST FLOOR LIGHTING PLAN
	E2.1	FIRST FLOOR POWER PLAN
	E2.4	ELECTRICAL ROOF PLAN
	E3.1	FIRST FLOOR SYSTEMS PLAN
	E4.1	ONE-LINE DIAGRAM SCHEDULES
	E5.1	SCHEDULES
	E6.1	DETAILS



- NOTES:
- FIXTURES SHOWN ARE FOR REFERENCE ONLY AND ARE NOT PROJECT SPECIFIC. SEE PLUMBING DRAWINGS AND SCHEDULES FOR FIXTURE TYPES.
 - MOUNTING HEIGHTS ARE TO BE COMPLIANT WITH 2010 ADA, ICC/ANSI A117.1-2007 AND THE ILLINOIS ACCESSIBILITY CODE. 1997 PROVIDE ALL NECESSARY CONCEALED BLOCKING AND REINFORCEMENT FOR THE SECURE INSTALLATION OF ALL EQUIPMENT AND ACCESSORIES.
 - EXPOSED PLUMBING BARRIER FREE LAVATORIES MUST BE INSULATED OR OTHERWISE CONFIGURED TO ELIMINATE POSSIBLE CONTACT.
 - SEE TOILET ACCESSORY SCHEDULE AND RESTROOM ELEVATIONS, A8.1

1 STANDARD MOUNTING HEIGHTS

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



Farnsworth GROUP

2211 W. BRADLEY AVENUE
CHAMPAIGN, ILLINOIS 61821
(217) 352-7408 / info@f-w.com

www.f-w.com
Engineers | Architects | Surveyors | Scientists

ISSUE: # DATE: DESCRIPTION:

Permit / Bid Set

PROJECT:
THE CITY OF MARSHALL

MARSHALL PUBLIC LIBRARY PHASE II RENOVATIONS

612 ARCHER AVE. MARSHALL, IL 62441

DATE: 11/09/2023

DESIGNED: SB

DRAWN: AG

REVIEWED: LU

GENERAL INFORMATION

SHEET NUMBER:

G1.0

PROJECT NO.: 0230585.00



Farnsworth GROUP

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CHAMPAIGN, ILLINOIS 61821
(217) 352-7408 / info@f-w.com

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ISSUE: # DATE: DESCRIPTION:

CODE INFORMATION

MARSHALL PUBLIC LIBRARY PHASE II RENOVATIONS
612 ARCHER AVE. MARSHAL IL 62441

WORK DESCRIPTION

TWO-STORY ELEVATOR ADDITION AND PARTIAL SECOND FLOOR INTERIOR REMODEL INCLUDING STRUCTURAL EVALUATION OF THE FLOOR SYSTEM, REMODELED SECOND FLOOR CONSISTING OF GENEALOGY, MEETING ROOM, READING ROOM, FUTURE KITCHEN, FUTURE TOILET ROOM AND SUPPORT SPACES.

APPLICABLE CODES

2021 INTERNATIONAL BUILDING CODE
2021 INTERNATIONAL ENERGY CONSERVATION CODE
2021 INTERNATIONAL MECHANICAL CODE
2021 INTERNATIONAL FIRE CODE
NATIONAL ELECTRIC CODE - LATEST VERSION
2018 ILLINOIS ACCESSIBILITY CODE
ILLINOIS PLUMBING CODE - LATEST VERSION
2021 INTERNATIONAL EXISTING BUILDING CODE

BUILDING CONSTRUCTION AND...

PROPOSED BUILDING
CONSTRUCTION TYPE: IIB
PRIMARY OCCUPANCY: A3
NOT SPRINKLERED

EGRESS

EXIT TRAVEL DISTANCE	200 FT...
COMMON PATH OF TRAVEL	75 FT...
DEAD END CORRIDORS	20 FT...

EGRESS PATH A

PATH ID	LENGTH
A	124' - 4 5/8"
TOTAL PATH LENGTH	124' - 4 5/8"

EGRESS PATH B

PATH ID	LENGTH
B	39' - 6 13/16"
B (COMMON)	51' - 8 27/32"
TOTAL PATH LENGTH	91' - 3 21/32"

EGRESS PATH C

PATH ID	LENGTH
C	10' - 0"
C (COMMON)	67' - 11 3/32"
TOTAL PATH LENGTH	77' - 11 3/32"

EGRESS PATH D

PATH ID	LENGTH
D	107' - 3 21/32"
D	36' - 0 1/4"
D (COMMON)	14' - 6"
TOTAL PATH LENGTH	157' - 9 29/32"

LIFE SAFETY GENERAL NOTES

- A. SEE SHEETS G1.0 FOR SYMBOLS AND ABBREVIATIONS.
- B. SEE STRUCTURAL DRAWINGS FOR FRAMING INFORMATION & FRAMING DIMENSIONS. ALL DIMENSIONS ARE FOR REFERENCE ONLY - VERIFY ALL FRAMING WITH STRUCTURAL DRAWINGS.
- C. REFER TO PLUMBING DRAWINGS FOR INFORMATION CONCERNING PLUMBING FIXTURES AND PIPING SYSTEM(S).
- D. REFER TO MECHANICAL DRAWINGS FOR INFORMATION CONCERNING HVAC SYSTEM(S).
- E. REFER TO ELECTRICAL DRAWINGS FOR INFORMATION CONCERNING POWER, LIGHTING AND COMMUNICATION SYSTEM(S).
- F. REFER TO ELECTRICAL DRAWING FOR FIRE ALARM NOTIFICATION AND EMERGENCY EGRESS LIGHTING LOCATIONS.
- G. REFER TO PARTITION TYPES FOR FURTHER FIRE SEPARATION REQUIREMENTS.
- H. CONTRACTOR TO PROVIDE ALL ADDITIONAL FRAMING NECESSARY FOR ALL OPENINGS AND SUPPLEMENTAL FRAMING ABOVE PARTITIONS.
- I. ALL FIRE RATED ASSEMBLIES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH TESTED ASSEMBLIES INDICATED.
- J. EXTEND FIRE RATED PARTITIONS, BARRIERS, AND OTHER SEPARATIONS TO BOTTOM OF ROOF/FLOOR DECK ABOVE (OR AS DIRECTED BY UL ASSEMBLY) AND TO EXTERIOR WALL. SEAL JOINT BETWEEN EDGES OF PARTITION WITH FIRE RATED SEALANT AND/OR INTUMESCENT ASSEMBLY.
- K. ALL PENETRATIONS OF FIRE-RATED ASSEMBLIES SHALL BE FIRE-SEALED IN ACCORDANCE WITH APPROVED MANUFACTURER'S DETAIL FOR LOCATION, TYPE OF CONSTRUCTION, PENETRATING ITEM AND RATING REQUIRED.
- L. ALL DUCTWORK, DIFFUSERS AND GRILLES PENETRATING FIRE-RATED WALLS, CEILINGS AND FLOORS SHALL HAVE THE APPROPRIATE TYPE OF FIRE/SMOKE DAMPER IN ACCORDANCE WITH THE TYPE OF CONSTRUCTION BEING PENETRATED AND THE FIRE/SMOKE RATING REQUIRED.
- M. ALL LIGHT FIXTURES AND ELECTRICAL DEVICES PENETRATING FIRE-RATED ASSEMBLIES SHALL BE UL-LISTED FOR INSTALLATION IN THE ASSEMBLY OR SHALL BE INSTALLED SUCH THAT THE FIRE-RATING IS NOT COMPROMISED.
- N. SMOKE RESISTANT CONSTRUCTION SHALL MEET THE REQUIREMENTS OF ALL APPLICABLE CODES. AREA SHALL BE SEPARATED FROM THE REMAINDER OF THE BUILDING BE CONSTRUCTION CAPABLE OF RESISTING THE PASSAGE OF SMOKE. THE PARTITIONS SHALL EXTEND FROM THE FLOOR TO THE UNDERSIDE OF THE FLOOR OR ROOF ASSEMBLY ABOVE. DOORS SHALL BE SELF OR AUTOMATIC CLOSING. DOORS SHALL NOT HAVE AIR TRANSFER OPENINGS AND SHALL NOT BE UNDERCUT IN EXCESS OF CLEARANCE PERMITTED WITH ACCORDANCE TO NFPA 80.
- O. STORAGE OF ANY FLAMMABLE OR COMBUSTIBLE LIQUIDS IS UNDERSTOOD TO NOT BE WITHIN THE BUILDING. STORAGE OF ANY MATERIAL IS TO BE IN COMPLIANCE WITH ALL APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION.

LIFE SAFETY LEGEND

- ### FIRE RATINGS
- SP----- NON-RATED SMOKE PARTITION WALL
 - 1/2FP----- 0.5 HOUR FIRE PARTITION WALL
 - 1FB----- 1 HOUR FIRE BARRIER WALL
 - 1FP----- 1 HOUR FIRE PARTITION WALL
 - 1FW----- 1 HOUR FIRE WALL
 - 1SB----- 1 HOUR SMOKE BARRIER WALL
 - 1 1/2FW----- 1.5 HOUR FIRE WALL
 - 2FB----- 2 HOUR FIRE BARRIER WALL
 - 2FW----- 2 HOUR FIRE WALL
- ### EGRESS
- ○ ○ ○ → TRAVEL DISTANCE TO AN EXIT
 - ○ ○ ○ → COMMON PATH OF TRAVEL
 - ● ● ● DEAD END CORRIDOR
 - ○ ○ ○ SMOKE COMPARTMENT TRAVEL
 - XX EGRESS PATH TAG
- ### EXIT IDENTIFICATION
- EGRESS CLEAR WIDTH
 - CA CONTROLLED ACCESS - ALWAYS UNLOCKED IN DIRECTION OF EGRESS
 - DE DELAYED EGRESS
 - KB KNOX BOX
- ### OCCUPANCY
- Name
 - 150 SF
 - XXXX
 - 000.00
 - ROOM NAME
 - ROOM AREA
 - OCCUPANCY TYPE
 - OCCUPANCY LOAD USED
 - OCCUPANCY LOAD FACTOR
- ### MISCELLANEOUS
- FEC FIRE EXTINGUISHER CABINET
 - FEB FIRE EXTINGUISHER BRACKET
 - FBC FIRE BLANKET CABINET
 - AREA OF REFUGE

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PROJECT:
THE CITY OF MARSHALL

MARSHALL PUBLIC LIBRARY PHASE II RENOVATIONS

612 ARCHER AVE. MARSHALL, IL 62441

DATE: 11/09/2023

DESIGNED: SB

DRAWN: AG

REVIEWED: LU

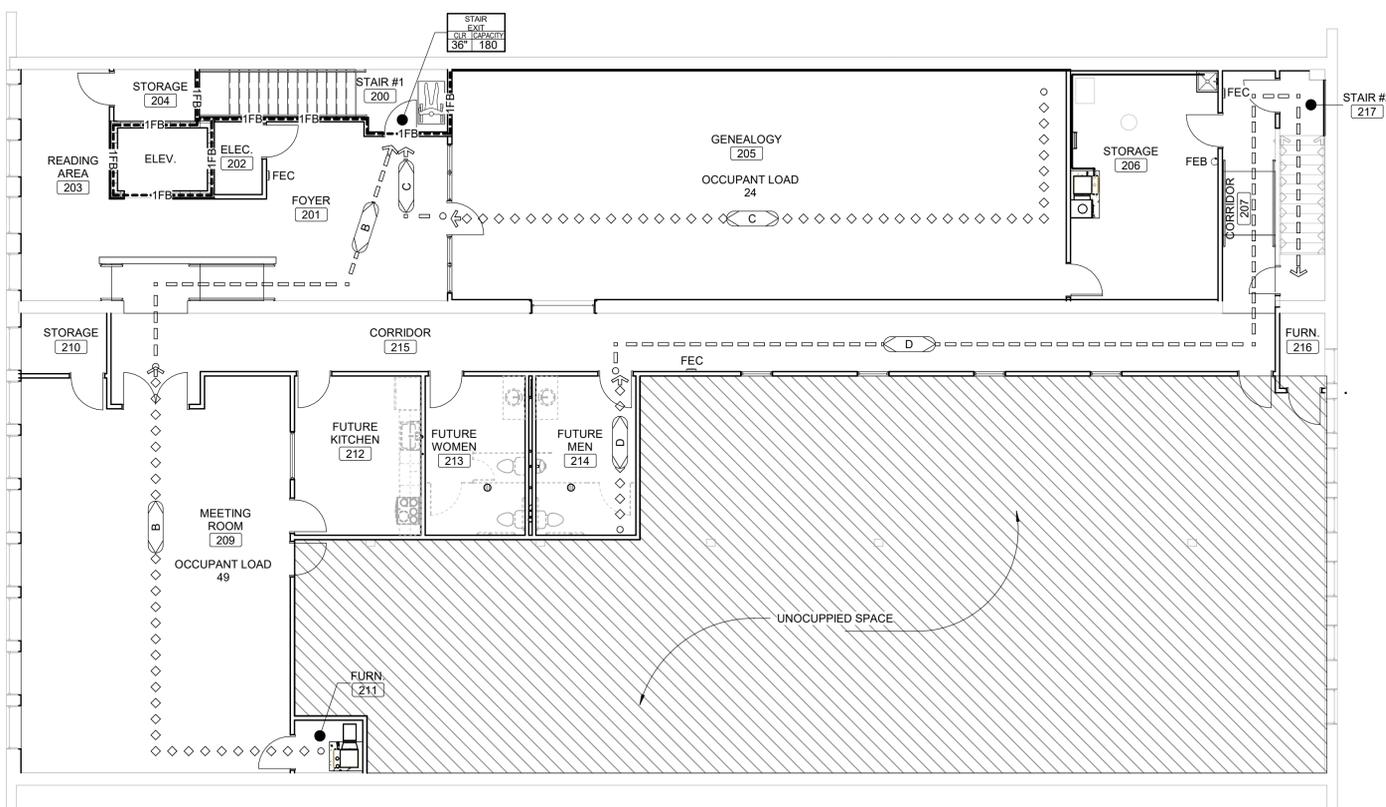
SHEET TITLE:

FIRST & SECOND FLOOR LIFE SAFETY PLAN

SHEET NUMBER:

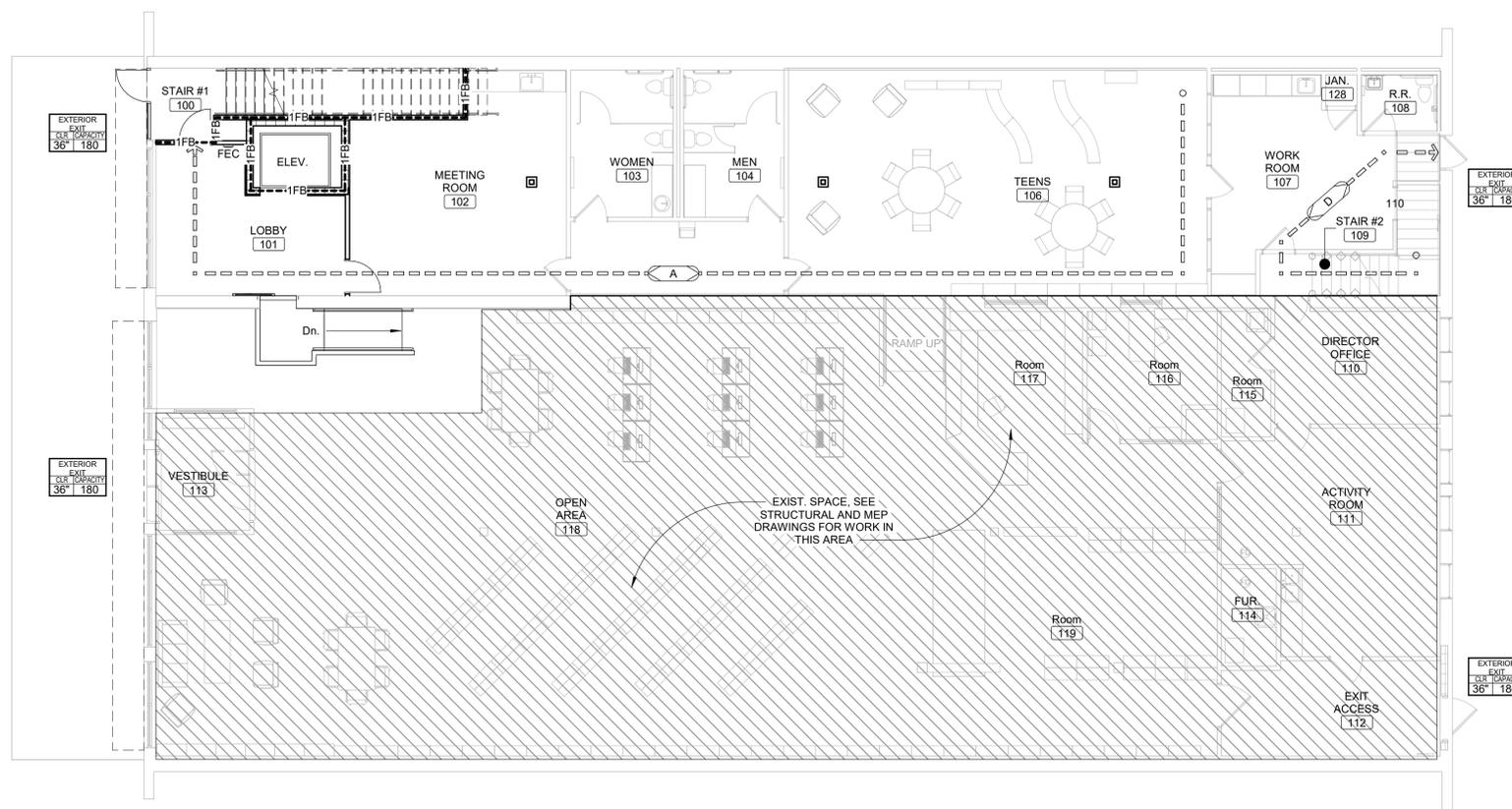
LS1.1

PROJECT NO.: 0230585.00



2 SECOND FLOOR LIFE SAFETY PLAN

Scale: 1/8" = 1'-0"



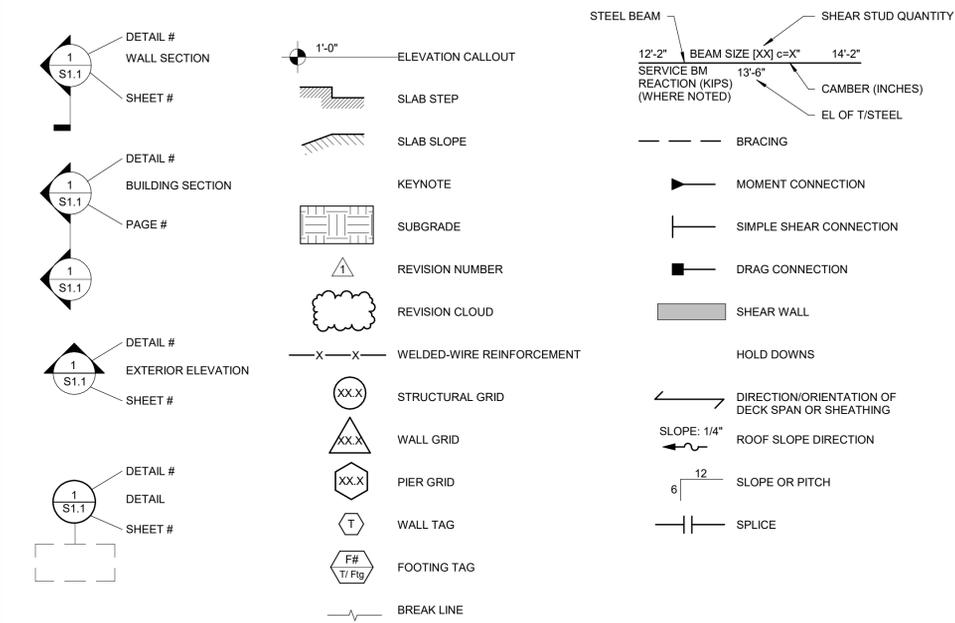
1 FIRST FLOOR LIFE SAFETY PLAN

Scale: 1/8" = 1'-0"



SYMBOLS LEGEND

NOTE: NOT ALL SYMBOLS ARE USED IN CONSTRUCTION DOCUMENTS



GENERAL NOTES

DESIGN CRITERIA:

- A. THE STRUCTURAL ENGINEERING DESIGN IS BASED ON AND IN ACCORDANCE WITH THE FOLLOWING CODE:
INTERNATIONAL BUILDING CODE - 2021
RISK CATEGORY = II
- B. UNLESS OTHERWISE SHOWN OR NOTED ON THE DRAWINGS, THE STRUCTURAL DESIGN IS BASED ON THE FOLLOWING TYPICAL UNIFORM LOADS:
DEAD LOADS
ROOF FLOOR = 15 PSF
FLOOR = 18 PSF
LIVE LOADS
ROOF = 20 PSF
FLOORS (BOOK RACKS) = 150 PSF
OFFICES = 50 PSF
CORRIDORS = 100PSF
STAIRS = 100 PSF
STORAGE (LIGHT) = 125 PSF
SNOW LOADS NOT APPLICABLE - INTERIOR IMPROVEMENT
WIND DESIGN DATA NOT APPLICABLE - INTERIOR IMPROVEMENT, BUILDING ORIGINAL MAIN RESISTING SYSTEM IS NOT ALTERED
EARTHQUAKE DESIGN DATA NOT APPLICABLE - INTERIOR IMPROVEMENT, BUILDING ORIGINAL MAIN RESISTING SYSTEM IS NOT ALTERED

ABBREVIATIONS

/	PER	EOR	ENGINEER-OF-RECORD	ML	MICRO-LAM OR MASONRY LINTEL	SW	SHEARWALL
@	AT	EQ	EQUAL	MTL	METAL	SYM	SYMMETRICAL
AB	ANCHOR BOLT	EQUIP	EQUIPMENT	MWFRS	MAIN WIND FORCE-RESISTING SYSTEM	T	TOP
ACI	AMERICAN CONCRETE INSTITUTE	ES	EACH SIDE	N	NORTH	T&B	TOP & BOTTOM
ADDL	ADDITIONAL	EW	EACH WAY	N-S	NORTH-SOUTH	T&G	TONGUE & GROOVE
ADJ	ADJACENT	EXIST or (E)	EXISTING	NIC	NOT IN CONTRACT	T/ or TO	TOP OF
AESS	ARCHITECTURAL EXPOSED STRUCTURAL STEEL	EXP	EXPANSION	NO or #	NUMBER	THK	THICK or THICKNESS
AFF	ABOVE FINISHED FLOOR	EXP ANCH	EXPANSION ANCHOR	NOM	NOMINAL	TL	TOTAL LOAD
ALT	ALTERNATE	EXT	EXTERIOR	NS	NEAR SIDE	TN	TOE NAIL
ALUM	ALUMINUM	FAB	FABRICATE	NTS	NOT TO SCALE	TOC	TOP OF CONCRETE
APA	AMERICAN PLYWOOD ASSOCIATION	FDN	FOUNDATION	NWC	NORMAL WEIGHT CONCRETE	TOF	TOP OF FOOTING
APPROX	APPROXIMATE	FF	FINISHED FLOOR	NWT	NORMAL WEIGHT	TOM	TOP OF MASONRY
ARCH	ARCHITECT OR ARCHITECTURAL	FIN	FINISHED	OC	ON CENTER	TOS	TOP OF STEEL
ASD	ALLOWABLE STRESS DESIGN	FLG	FLANGE	OD	OUTSIDE DIAMETER	TOW	TOP OF WALL
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS	FLR	FLOOR	OF	OUTSIDE FACE	TRANS	TRANSVERSE
AWS	AMERICAN WELDING SOCIETY	FN	FIELD NAILING	OFCI	OWNER-FURNISHED, CONTRACTOR-INSTALLED	TYP	TYPICAL
B/ or BOT or BO	BOTTOM OF	FO	FACE OF	OFOI	OWNER-FURNISHED, OWNER-INSTALLED	ULT	ULTIMATE
B/STEEL or BOS	BOTTOM OF STEEL	FP	FULL PENETRATION	OH	OPPOSITE HAND	UNO	UNLESS NOTED OTHERWISE
BF	BRACED FRAME	FRMG	FRAMING	OPNG	OPENING	VERT	VERTICAL
BG	BACKGOUGE	FS	FAR SIDE	OPP	OPPOSITE	VIF	VERIFY IN FIELD
BL	BRICK LEDGE	FT	FOOT OR FEET	OSB	ORIENTED STRAND BOARD	W/	WITH
BLDG	BUILDING	FTG	FOOTING	OWJ	OPEN-WEB JOIST	W/O	WITHOUT
BLKG	BLOCKING	FV	FIELD VERIFY	PAF	POWDER ACTUATED FASTENER	WD	WOOD
BM	BEAM	GA	GAGE OR GAUGE	PC	PRECAST	WF	WIDE FLANGE
BN	BOUNDARY NAIL	GALV	GALVANIZED	PCA	PORTLAND CEMENT ASSOCIATED	WP	WORKING POINT
BRG	BEARING	GC	GENERAL CONTRACTOR	PCF	POUNDS PER CUBIC FOOT	WT	WEIGHT
BTWN	BETWEEN	GEN	GENERAL	PDF	POWER DRIVEN FASTENER	WWF	WELDED WIRE FABRIC
CC	CENTER TO CENTER	GL	GLU-LAM	PEB	PRE-ENGINEERED BUILDING		
CF	COLD FORMED	GR	GRADE OR GRIND	PEMB	PRE-ENGINEERED METAL BUILDING		
CFCI	CONTRACTOR-FURNISHED, CONTRACTOR-INSTALLED	GR BM	GRADE BEAM	PEN	PENETRATION		
CG	CENTER OF GRAVITY	GYP	GYPSUM	PERP	PERPENDICULAR		
CIP	CAST-IN-PLACE	H	HEIGHT	PL	PLATE (STEEL)		
CJ	CONTROL/CONSTRUCTION JOINT	HAS	HEADED ANCHOR STUD	PLF	POUNDS PER LINEAL FOOT		
CJP	COMPLETE JOINT PENETRATION	HORIZ	HORIZONTAL	PP or PJP	PARTIAL JOINT PENETRATION		
CL	CENTERLINE	HVAC	HEATING-VENTILATING AND A/C	PREFAB	PREFABRICATED		
CLG	CILING	ID	INSIDE DIAMETER	PRELIM	PRELIMINARY		
CLR	CLEAR	IF	INSIDE FACE	PS	PRESTRESSED		
CMU	CONCRETE MASONRY UNIT	IN	INCH	PSF	POUNDS PER SQUARE FOOT		
COL	COLUMN	INCL	INCLUD(S) or INCLUDING	PSI	POUNDS PER SQUARE INCH		
CONC	CONCRETE	INFO	INFORMATION	PT	POINT or POST-TENSION or PRETENSIONED or PRESSURE-TREATED		
CONN	CONNECTION	INSUL	INSULATION	QTY	QUANTITY		
CONST	CONSTRUCTION	INT	INTERIOR	RAD or R	RADIUS		
CONT	CONTINUE OR CONTINUOUS	INT	INTERIOR	RC	REINFORCED CONCRETE		
COORD	COORDINATE	IT	PRECAST INVERTED TEE BEAM	RE: or REF	REFER TO (REFERENCE) or PER or SEE		
d	PENNY	JST	JOIST	REINF	REINFORCE(ING/D)I(MENT)		
DBL	DOUBLE	JT	JOINT	REQD	REQUIRED		
DEG	DEGREE	K or K	KIP	REQT(S)	REQUIREMENT(S)		
DEMO	DEMOLISH or DEMOLITION	L	LENGTH	RET	RETURN		
DEPR	DEPRESSION	LB(S)	POUND(S)	REV	REVISION		
DIA	DIAMETER	LFRS	LATERAL FORCE-RESISTING SYSTEM	RO	ROUGH OPENING		
DIA or	DIAMETER	LL	LIVE LOAD	S	SOUTH		
DIAG	DIAGONAL	LLH	LONG LEG HORIZONTAL	SC	SLIP CRITICAL		
DIM	DIMENSION	LLV	LONG LEG VERTICAL	SCHEG	SCHEDULE		
DIR	DIRECTION	LOC(S)	LOCATION(S) OR LOCATE	SECT	SECTION		
DL	DEAD LOAD	LONG	LONGITUDINAL	SEOR	STRUCTURAL ENGINEER OF RECORD		
DN	DOWN	LRFD	LOAD AND RESISTANCE FACTOR DESIGN	SFRS	SEISMIC FORCE-RESISTING SYSTEM		
DO	DITTO	LS	LAP SLICE	SHT	SHEET		
DP	DRILLED PIER	LSL	LAMINATED STRAND LUMBER	SHTG	SHEATHING		
DT	PRECAST DOUBLE TEE	LT	LIGHT	SIM	SIMILAR		
DTL(S)	DETAIL(S)	LTWT	LIGHTWEIGHT	SLH	SHORT LEG HORIZONTAL		
DWG(S)	DRAWING(S)	LVL	LAMINATED VENEER LUMBER	SLV	SHORT LEG VERTICAL		
DWL(S)	DOWEL(S)	LWC	LIGHT WEIGHT CONCRETE	SMS	SHEET METAL SCREW		
E-W	EAST-WEST	MATL	MATERIAL	SOG	SLAB ON GRADE		
EA	EACH	MAX	MAXIMUM	SPECS	SPECIFICATIONS		
EF	EACH FACE	MECH	MECHANICAL	SQ	SQUARE		
EIFS	EXTERIOR INSULATION FINISH SYSTEM	MEP	MECHANICAL/ELECTRICAL/PLUMB	SS	STAINLESS STEEL		
EJ	EXPANSION JOINT	MEZZ	MEZZANINE	SSC	SPECIAL SEISMIC CERTIFICATION		
EL or ELEV	ELEVATION	MFR or MANUF	MANUFACTURER	STD	STANDARD		
ELEC	ELECTRICAL	MID	MIDDLE	STL	STEEL		
EMBED	EMBEDDED	MIN	MINIMUM	SUSP	SUSPENDED		
EN	EDGE NAIL	MISC	MISCELLANEOUS				
ENGR	ENGINEER	MJ	MASONRY CONTROL JOINT				

Farnsworth GROUP
2211 W. BRADLEY AVENUE
CHAMPAIGN, ILLINOIS 61821
(217) 352-7408 / info@f-w.com
www.f-w.com
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ISSUE # DATE DESCRIPTION:

Permit / Bid Set

PROJECT:
THE CITY OF MARSHALL

MARSHALL PUBLIC LIBRARY PHASE II RENOVATIONS

612 ARCHER AVE., MARSHALL, IL 62441

DATE:	11/09/2023
DESIGNED:	ARZ
DRAWN:	SCS
REVIEWED:	DKS

SHEET TITLE:
GENERAL INFORMATION

SHEET NUMBER:
S0.1
PROJECT NO.: 0230585.00



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CHAMPAIGN, ILLINOIS 61821
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GENERAL NOTES

GENERAL CONSTRUCTION:

- A. ALL DETAILS, SECTIONS, AND PLAN NOTES SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL BE CONSTRUED TO APPLY TO SIMILAR CONDITIONS ELSEWHERE.
- B. THESE NOTES SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATIONS AND THE DRAWINGS. IN THE EVENT OF A CONFLICT, NOTIFY THE ENGINEER FOR CLARIFICATION.
- C. THE CONTRACTOR SHALL VERIFY, BY FIELD CHECK, ALL SIZES, DIMENSIONS, ELEVATIONS, LOCATIONS, ETC., OF THE EXISTING CONSTRUCTION WHICH ARE RELATIVE TO THE CONSTRUCTION.
- D. REQUESTS FOR INFORMATION SHALL BE SUBMITTED TO THE ENGINEER UNLESS OTHERWISE NOTED.
- E. THE CONTRACTOR IS TO ASSUME FULL RESPONSIBILITY, UNRELIEVED BY REVIEW OF SHOP DRAWINGS OR PERIODIC OBSERVATIONS, FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS.
- F. THE EXISTING CONDITIONS INDICATED ON THE DRAWINGS ARE BASED ON SURVEYS AS WELL AS ON MATERIAL PROVIDED BY THE OWNER AND NO CLAIM IS MADE AS TO ITS ABSOLUTE COMPLETENESS AND/OR ACCURACY PRIOR TO THE START OF CONSTRUCTION OPERATIONS.
- G. WHERE NEW CONSTRUCTION ABUTS OR INTEGRATES WITH EXISTING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THAT THE EXISTING CONDITIONS AND DIMENSIONS ARE CLOSE TO THOSE THAT HAVE BEEN ASSUMED. IF THERE ARE ANY VARIANCES THAT WILL PREVENT THE WORK FROM BEING COMPLETED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS, THEY SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY UPON DISCOVERY. THE ENGINEER SHALL ADVISE THE CONTRACTOR AS TO THE NECESSARY MODIFICATIONS.
- H. THE CONTRACTOR SHALL BE FAMILIARIZED WITH THE SCOPE OF THE WORK AND SOIL AND WATER CONDITIONS BEFORE PROCEEDING WITH THE WORK. SOIL BORING LOCATIONS AND SOIL BORING LOGS ARE INCLUDED IN THE SPECIFICATIONS. SOIL INFORMATION RELEASED IN THE SPECIFICATIONS IS FOR GENERAL INFORMATION ONLY. THE ACTUAL CONDITIONS MAY VARY AT THE SITE.
- I. THE CONTRACTOR SHALL INVESTIGATE SITE DURING CLEARING AND EARTHWORK OPERATIONS FOR FILLED EXCAVATIONS OR BURIED STRUCTURES, SUCH AS CESSPOOLS, CISTERNS, FOUNDATIONS, ETC. IF ANY SUCH STRUCTURES ARE FOUND, THE STRUCTURAL ENGINEER AND GEOTECHNICAL ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
- J. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES BETWEEN CONSTRUCTION DOCUMENTS AND ACTUAL FIELD CONDITIONS.
- K. VERIFY SIZE AND LOCATIONS OF HOLES AND SLEEVES THROUGH MASONRY WALLS WITH MECHANICAL AND PLUMBING CONTRACTORS.
- L. GROUT BELOW BEAM BEARING AND COLUMN BASE PLATES SHALL BE IN PLACE AND PROPERLY CURED PRIOR TO ANY APPLICATION OF LOAD TO THE SUPPORTED MEMBER.
- M. ALL LATERAL LOAD RESISTANCE AND STABILITY OF THE BUILDING IS PROVIDED BY THE EXISTING MAIN BUILDING RESISTING SYSTEM THAT IS NOT ALTERED UNDER THIS IMPROVEMENT.
- N. THE STRUCTURAL STEEL FRAME SHALL BE ADEQUATELY BRACED FOR STABILITY WITH EXISTING FLOOR JOISTS.
- O. ALL STEEL BUILDING FRAMES, UNLESS OTHERWISE NOTED, ARE NON-SELF SUPPORTING STEEL FRAMES AS DEFINED IN THE "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" (AISC 2000), SECTION [7.9.3]. THE CONTRACTOR SHALL PROVIDE TEMPORARY LATERAL BRACING FOR STEEL FRAMES UNTIL ALL BEAM CONNECTIONS ARE COMPLETE AND FLOOR AND ROOF DIAPHRAGMS ARE INSTALLED AND OF ADEQUATE STRENGTH.
- P. SEE ARCHITECTURAL DRAWINGS FOR:
 1. SIZE AND LOCATION OF STOREFRONT SYSTEMS, DOOR, AND WINDOW OPENINGS, EXCEPT AS SHOWN OR NOTED.
 2. FLOOR AND ROOF FINISHES, DRAINAGE, AND WATERPROOFING
 3. FIREPROOFING REQUIREMENTS INCLUDING FIREPROOFING OF STRUCTURAL STEEL
 4. DIMENSIONS NOT SHOWN ON STRUCTURAL DRAWINGS.
- Q. SEE MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR:
 1. PIPE RUNS, SLEEVES, TRENCHES, WALL AND SLAB OPENINGS, ETC., EXCEPT AS SHOWN OR NOTED.
 2. ELECTRICAL CONDUIT RUNS, BOXES, OUTLETS IN WALLS AND SLABS.
 3. CONCRETE INSERTS FOR ELECTRICAL, MECHANICAL, OR PLUMBING FIXTURES.
- R. FOR PIPES EMBEDDED IN CMU: PIPES SHALL NOT BE EMBEDDED IN CMU EXCEPT WHERE SPECIFICALLY DETAILED. CONDUITS MAY BE EMBEDDED IF ALL OF THE FOLLOWING ARE TRUE:
 1. CONDUITS ARE <3/4" IN DIAMETER.
 2. CONDUITS ARE NOT PLACED IN A CELL WITH REINFORCEMENT.
 3. CONDUITS ARE A MINIMUM OF 24" FROM JAMB/END REINFORCEMENT IN FULLY GROUTED WALLS.
 4. CELLS WITH CONDUITS ARE SPACED 32" O.C. MIN.
 5. (2) MAX CONDUITS PER UNREINFORCED CELL, SPACED AT MINIMUM OF 3 DIAMETERS.
 6. CONDUITS ARE VERTICAL
 7. CONDUITS SHALL NOT BE EMBEDDED IN EXTERIOR CMU WALLS OUTSIDE THE INSULATED BUILDING ENVELOPE.
- S. CONSTRUCTION MATERIAL SHALL BE SPREAD OUT IF PLACED ON FRAMED ROOF OR FLOOR. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT. THE CONTRACTOR SHALL DESIGN AND PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE STRUCTURE HAS NOT ATTAINED DESIGN STRENGTH.
- T. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE DESIGN INTENT FOR THE FINISHED STRUCTURE. THEY DO NOT INDICATE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO: BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. THE CONTRACTOR IS RESPONSIBLE FOR PROVISIONS OF TEMPORARY SHORING AND OTHER CONSTRUCTION AIDS, INCLUDING ALL ENGINEERING OF SUCH SYSTEMS, FOR TEMPORARY SUPPORT OF NEW AND/OR EXISTING STRUCTURAL ELEMENTS AS REQUIRED FOR ERECTION AND OTHER CONTRACTOR'S MEANS AND METHODS OF CONSTRUCTION, UNLESS NOTED OTHERWISE. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.

FOUNDATIONS:

- A. GEOTECHNICAL INFORMATION AND FOUNDATION DESIGN IS BASED ON THE FOLLOWING GEOTECHNICAL REPORT(S):
- B. COPIES OF THE REPORT(S) AND ANY ADDENDUM/SUPPLEMENTAL LETTERS SHALL BE AVAILABLE AT THE JOBSITE AT ALL TIMES.
- C. FOOTING DESIGN CRITERIA:

ALLOWABLE BEARING CAPACITY	1500 PSF
PASSIVE LATERAL RESISTANCE	___ PSF
COEFFICIENT OF FRICTION	___
FROST DEPTH	___
- D. COMPACTED FILL FOR THE PURPOSE OF UNDERLYING BUILDING OR SITE STRUCTURES SHALL BE PREPARED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT.
- E. REFER TO THE PROJECT GEOTECHNICAL REPORT FOR EXTENT AND DEPTH OF OVEREXCAVATION (SUB-EXCAVATION), AND FOR RECOMPACTION AND SOIL CONDITIONING REQUIREMENTS.
- F. BOTTOM DEPTHS OF EXCAVATION AS WELL AS ALL PLACEMENT AND COMPACTION OF FILL SHALL BE OBSERVED AND TESTED BY THE PROJECT GEOTECHNICAL ENGINEER.
- G. ALL PAD FOOTINGS AND PIERS SHALL BE CENTERED ON BUILDING COLUMN REFERENCE LINES UNLESS INDICATED BY AN OFFSET DIMENSION.
- H. ALL WALL FOOTINGS SHALL BE CENTERED ON WALL CENTERLINE UNLESS INDICATED BY AN OFFSET DIMENSION.
- I. ALL FOOTINGS SHALL REST ON UNDISTURBED SOIL OR COMPACTED FILL WHICH HAS A MINIMUM ALLOWABLE BEARING CAPACITY EQUAL TO OR GREATER THAN THAT SHOWN ABOVE.
- J. ALL FOOTING ELEVATIONS SHOWN ON THE DRAWINGS MEET THE REQUIRED DEPTHS FOR BEARING AND/OR FROST PROTECTION. ACTUAL FIELD CONDITIONS MAY REQUIRE ADDITIONAL EXCAVATION AND/OR COMPACTED FILL.

MASONRY:

- A. ENGINEERED MASONRY DESIGNED IN ACCORDANCE WITH THE "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" (ACI 530/ASCE 5/TMS 402) BY THE AMERICAN CONCRETE INSTITUTE, THE AMERICAN SOCIETY OF CIVIL ENGINEERS, AND THE MASONRY SOCIETY.
- B. DESIGN COMPRESSIVE STRENGTH OF MASONRY UNITS (F_m):

CONCRETE MASONRY	2250 PSI
FACE AND COMMON BRICK	2500 PSI
- C. MINIMUM COMPRESSIVE STRENGTH (F_c) AT 28 DAYS:

TYPE M MORTAR, ASTM C270	2500 PSI - USE BELOW GRADE
TYPE S MORTAR, ASTM C270	1800 PSI - USE ABOVE GRADE
GROUT, ASTM C476	2500 PSI
- D. BOND BEAMS AND ALL VERTICAL REINFORCEMENT:
 1. NEW BILLET STEEL COMPLYING WITH ASTM A615 AND HAVING MINIMUM YIELD STRENGTH OF 60,000 PSI.
 2. BEARINGS FOR BEAMS, LINTELS, JOISTS, ETC., SHALL BE SOLID MASONRY UNITS OR HOLLOW MASONRY UNITS REINFORCED WITH TYPICAL WALL REINFORCEMENT AND SLUSHED SOLID WITH GROUT. SEE TYPICAL DETAILS.
 3. LAP DOWELS PROJECTING FROM FOUNDATION.
 4. GROUT REINFORCED CELLS SOLID.
 5. BOND BEAMS SHALL BE CONTINUOUS AT CORNERS. PROVIDE CORNER BARS WITH MINIMUM 40 BAR DIAMETERS LAP.
 6. BOND BEAMS SHALL BE CONTINUOUS ACROSS VERTICAL CONTROL JOINTS.
- E. BED JOINT REINFORCEMENT:
 1. CONTINUOUS HORIZONTAL WIRE TIES SHALL BE PLACED SUCH THAT THE DISTANCE BETWEEN THE FACE OF THE MASONRY WALL AND THE PARALLEL WIRE IS NOT MORE THAN ONE INCH. THE PARALLEL WIRES SHALL CONFORM TO ASTM A82 AND HAVE A MINIMUM YIELD STRESS OF 70.0 KSI.
 2. SINGLE WYTHE BLOCK:
 - a. 2-#9 GAGE DEFORMED WIRES, (1) AT EACH FACE SHELL, TRUSS TIED.
 3. DOUBLE WYTHE - BLOCK/BRICK:
 - a. 3-#9 GAGE DEFORMED WIRES, (1) AT EACH BLOCK FACE SHELL AND (1) AT BRICK WYTHE, LADDER TIED.
 - b. 2-#9 GAGE DEFORMED WIRES, (1) AT EACH WYTHE, LADDER TIED
 4. BED JOINT REINFORCEMENT CLEAR COVER:
 - a. EXTERIOR FACE (EXPOSED TO ELEMENTS): 5/8" MIN
 - b. INTERIOR FACE (EXPOSED TO ELEMENTS): 1/2" MIN
- F. WHERE A DOUBLE WYTHE WALL IS SHOWN OR INDICATED NOT TO CONTAIN A CAVITY, THE INTERFACE BETWEEN TWO WYTHES SHALL BE GROUTED SOLID.
- G. USE FULLY GROUTED NORMAL WEIGHT CONCRETE MASONRY UNITS BELOW GRADE AND LIGHTWEIGHT CONCRETE MASONRY UNITS ABOVE GRADE UNLESS OTHERWISE SHOWN OR NOTED.
- H. UNLESS OTHERWISE SHOWN OR NOTED, REINFORCING STEEL SHALL BE LAPPED 40 BAR DIAMETERS, MINIMUM.
- I. ALL CMU WALL DOWELS SHALL BE TIED OR SECURED TO CONCRETE WALL OR FOUNDATION REINFORCEMENT AND CAST IN PLACE UNLESS OTHERWISE NOTED OR DETAILED.

STRUCTURAL CONCRETE:

- A. REINFORCED CONCRETE DESIGNED IN ACCORDANCE WITH THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318) BY THE AMERICAN CONCRETE INSTITUTE.
- B. REINFORCING BAR DETAILING, FABRICATING, AND PLACING SHALL CONFORM TO THE CONCRETE REINFORCING STEEL INSTITUTE'S "REINFORCING BAR DETAILING" AND "PLACING REINFORCING BARS".
- C. MINIMUM CONCRETE COMPRESSIVE STRENGTH (F_c) AT 28 DAYS:

FOOTINGS	4000 PSI
FOUNDATION WALLS AND GRADE BEAMS	4000 PSI
SLABS ON GRADE	4000 PSI
- D. PORTLAND CEMENT SHALL CONFORM TO ASTM C-150, TYPE VII, UNLESS OTHERWISE NOTED.
- E. CONCRETE REINFORCEMENT:
 1. DEFORMED BARS - NEW BILLET STEEL COMPLYING WITH ASTM A615 AND HAVING A MINIMUM YIELD STRENGTH OF 60000 PSI.
 2. WELDED WIRE FABRIC - SMOOTH WIRE FABRIC COMPLYING WITH ASTM A185
- F. CONCRETE PROTECTION FOR REINFORCEMENT, UNLESS OTHERWISE SHOWN THE CLEAR DISTANCE FROM THE FACE OF CONCRETE TO THE REINFORCING STEEL SHALL BE:

CONCRETE POURED AGAINST GROUND (NOTE A)	3"
CONCRETE POURED AGAINST FORMS (NOTE A, B, C):	
#6 BARS OR LARGER	2"
SMALLER THAN #6 BARS	1 1/2"
SLABS POURED TO FORMS:	
FORMED SURFACE (NOTE B)	3/4"
TROWELED SURFACE (NOTE B)	1"
SCREEDDED SURFACE FOR APPLIED TOPPING	3/4"
SLABS POURED ON GRADE:	
FROM BOTTOM SURFACE	2"
TROWELED SURFACE (NOTE B)	1"
SCREEDDED SURFACE FOR APPLIED TOPPING	3/4"

(NOTE A) EXCLUDING SLABS POURED ON GRADE.
 (NOTE B) INCREASE BY 1/2" IF SURFACE IS TO BE IN PERMANENT CONTACT WITH GROUND OR WATER.
 (NOTE C) USE ONE HALF THE CLEAR DISTANCE SHOWN FOR WEBS OF CONCRETE JOISTS.
- G. UNLESS OTHERWISE SHOWN OR NOTED, SPlicing OF REINFORCING BARS OR WELDED WIRE FABRIC SHALL CONFORM TO THE REQUIREMENTS OF ACI 318.
- H. ARRANGE, SPACE, AND SECURELY TIE BARS AND BAR SUPPORTS TO HOLD REINFORCEMENT IN POSITION DURING CONCRETE PLACEMENT OPERATIONS. SET WIRE TIES SO ENDS ARE DIRECTED INTO CONCRETE.
- I. PROVIDE SUPPORT FOR REINFORCEMENT INCLUDING BOLSTERS, CHAIRS, AND SPACERS WITH SAND PLATES FOR SUPPORTING AND FASTENING REINFORCING BARS TO PROVIDE THE CONCRETE COVER INDICATED.
- J. ALTERNATE LOCATION OF LAP SPLICE IN WALLS AND SLABS.
- K. UNLESS OTHERWISE SHOWN OR NOTED, TOP AND BOTTOM BARS FOR CONTINUOUS BEAMS SHALL BE OF MAXIMUM LENGTH WITH SPLICES LOCATED AT MIDSPAN FOR TOP BARS AND AT SUPPORTS FOR BOTTOM BARS.
- L. ALL HORIZONTAL BARS IN WALLS OR GRADE BEAMS SHALL BE BENT AT CORNERS AND INTERSECTIONS IN SUCH A WAY THAT CONTINUITY IS PROVIDED THROUGH THE JOINT. SEPARATE CORNER BARS OF THE SAME SIZE AND SPACING AS THE HORIZONTAL REINFORCING MAY BE SUBSTITUTED FOR THE BENT PORTION OF THE CONTINUOUS BAR.
- M. SIZE AND LOCATIONS OF CONCRETE BASES AND EMBEDDED ANCHORAGES FOR EQUIPMENT SHALL BE COORDINATED WITH EQUIPMENT SUPPLIER AND SHALL BE IN ACCORDANCE WITH APPROVED SHOP DRAWINGS.
- N. COORDINATE CAMBER OF ADJACENT JOISTS WITH NONCAMBERED CONNECTIONS IN CAST IN PLACE CONCRETE WALLS.

STEEL:

- A. STRUCTURAL STEEL IS DESIGNED IN ACCORDANCE WITH AND SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS," AND THE AISC "STEEL CONSTRUCTION MANUAL".
- B. ALL STRUCTURAL STEEL, UNLESS OTHERWISE NOTED, SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS:

W-SHAPES	A992 OR A572, GRADE 50
M-, S-, & HP-SHAPES	A36
CHANNELS	A36
ANGLES	A36
STEEL PIPE	A53
ROUND HSS	A500 GRADE C
SQUARE & RECTANGULAR HSS	A500 GRADE C
STRUCTURAL PLATE AND BARS	A36
- C. PROVIDE A 1/4" CAP PLATE SHOP WELDED TO THE TOP OF ALL HSS POSTS AND COLUMNS UNLESS OTHERWISE NOTED.
- D. ALL BEAM CONNECTIONS NOT OTHERWISE DETAILED OR CALLED OUT SHALL BE STANDARD FRAMED CONNECTIONS DESIGNED TO SUPPORT NOT LESS THAN 60% OF THE TOTAL UNIFORM LOAD FOR THE SHAPE AND SPAN.
- E. SHOP CONNECTIONS MAY BE WELDED OR HIGH STRENGTH BOLTED AT FABRICATOR'S OPTION, SUBJECT TO ENGINEER'S APPROVAL.
- F. ALL BOLTED CONNECTIONS FOR STRUCTURAL STEEL SHALL CONFORM TO AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS".
- G. UNLESS OTHERWISE SHOWN OR NOTED ON THE DRAWINGS, ALL BOLTED CONNECTIONS SHALL BE MADE WITH 3/4" DIAMETER HIGH STRENGTH BOLTS, BEARING TYPE WITH THREADS IN THE SHEAR PLANE, CONFORMING TO ASTM F3125, GRADE A325-N, GROUP A.
- H. ALL WELDED CONNECTIONS FOR STRUCTURAL STEEL SHALL CONFORM TO AWS "STRUCTURAL WELDING CODE," D1.1.
- I. UNLESS OTHERWISE SHOWN OR NOTED ON THE DRAWINGS, ALL WELDED CONNECTIONS SHALL BE MADE WITH E70-XX LOW HYDROGEN ELECTRODES.
- J. PROVIDE ALL BOLT HOLES, STUDS, ANCHORS, AND CLIP ANGLES REQUIRED TO ATTACH OTHER MATERIALS AS SHOWN ON THE DRAWINGS.
- K. PROVIDE MINIMUM 8" BEARING FOR BEAMS OR LINTELS WITH SPANS 4'-0" OR LARGER AND 6" BEARING ON SPANS LESS THAN 4'-0", UNLESS OTHERWISE DETAILED ON THE DRAWINGS.
- L. PROVIDE L3x3x1/4x0'-3" WALL ANCHOR EACH SIDE OF BEAM WEB FOR BEAMS EMBEDDED IN MASONRY UNLESS OTHERWISE SHOWN ON DRAWINGS.
- M. ANCHOR BOLTS SHALL CONFORM TO ASTM F1554, 36KSI AND SHALL BE PLACED WITHIN THE FOLLOWING TOLERANCES:

TOP OF ANCHOR BOLT ELEVATION	+1" TO -3/8"
OUT OF POSITION OF ANCHOR BOLTS	±1/8"
ELEVATION OF FINISHED CONCRETE SURFACE FOR BEARING	± 1/8"
- N. ALL GROUT BELOW ALL COLUMN BASE PLATES SHALL BE NON-SHRINK, NON-METALLIC GROUT UNLESS OTHERWISE SHOWN OR NOTED.
- O. ALL GUSSET PLATES AND CONNECTION ANGLES SHALL BE A MINIMUM OF 3/8" THICK, UNLESS NOTED OTHERWISE.
- P. ALL GUSSET PLATE CONNECTIONS FOR BRACING SHALL BE DESIGNED FOR NOT LESS THAN 50% OF THE EFFECTIVE STRENGTH OF THE MEMBER.
- Q. ALL STEEL SHALL HAVE ONE SHOP COAT OF PRIMER, EXCEPT:
 1. WHERE PROHIBITED BY THE REQUIREMENTS OF THE "SPECIFICATION FOR STRUCTURAL JOINTS" USING ASTM A325 BOLTS.
 2. GALVANIZE ALL EXTERIOR STEEL, STEEL IN EXTERIOR WALLS, AND THEIR CONNECTIONS.
 3. WHERE OTHERWISE NOTED ON PLANS AND DETAILS.

SHORING AND BRACING:

- A. THE CONTRACTOR SHALL PROVIDE ALL SHORING, BRACING, SHEETING, ETC. REQUIRED FOR SAFETY AND PROPER EXECUTION OF THE WORK.
- B. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PREPARING SHOP DRAWINGS FOR BRACING AND SHORING MEMBERS WHICH SHALL BE DESIGNED, STAMPED, AND SEALED BY A PROFESSIONAL ENGINEER.
- C. FINAL SHOP DRAWINGS SHALL BE KEPT AS A RECORD COPY AND SHALL NOT BE REVIEWED BY THE ENGINEER OF RECORD.

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GENERAL INFORMATION

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S0.2

PROJECT NO.: 0230585.00



Farnsworth GROUP

2211 W. BRADLEY AVENUE
CHAMPAIGN, ILLINOIS 61821
(217) 352-7408 / info@f-w.com

www.f-w.com
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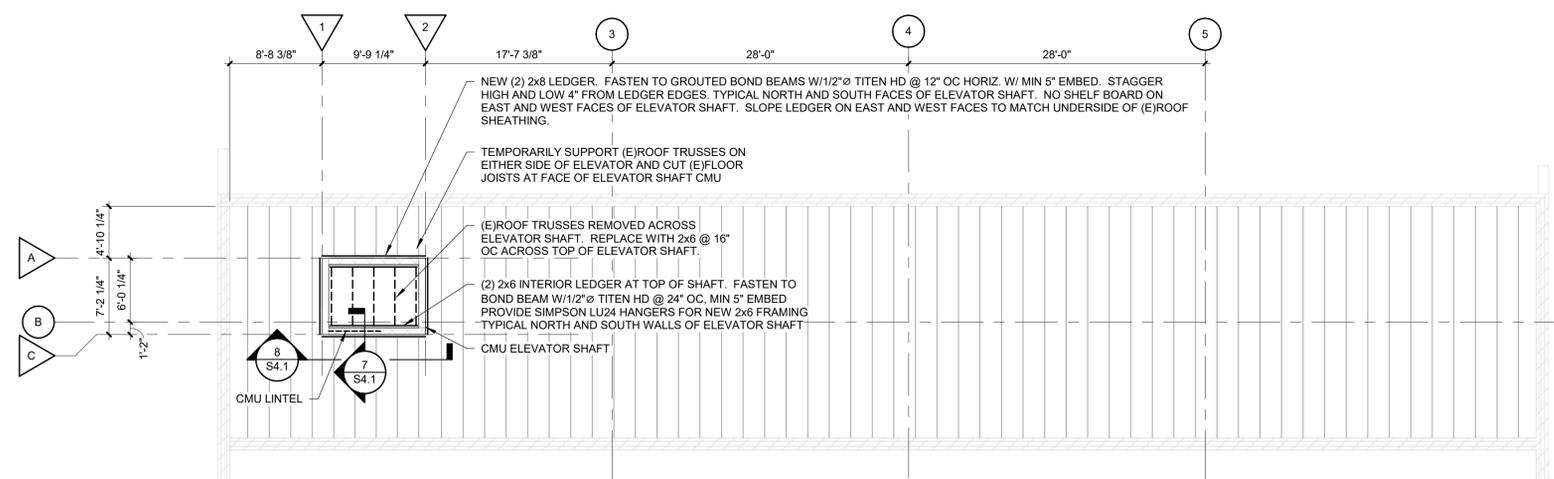
SHEET TITLE:

STRUCTURAL PLANS

SHEET NUMBER:

S1.2

PROJECT NO.: 0230585.00



ROOF FRAMING PLAN NOTES

- A. SEE S0.1 FOR GENERAL STRUCTURAL NOTES.
- B. SEE ARCHITECTURAL FOR DIMENSIONS NOT SHOWN.

1 ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"





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2211 W. BRADLEY AVENUE
CHAMPAIGN, ILLINOIS 61821
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ISSUE # DATE DESCRIPTION

Permit / Bid Set

PROJECT:
THE CITY OF MARSHALL

MARSHALL PUBLIC LIBRARY PHASE II RENOVATIONS

612 ARCHER AVE., MARSHALL, IL 62441

DATE: 11/09/2023

DESIGNED: ARZ

DRAWN: SCS

REVIEWED: DKS

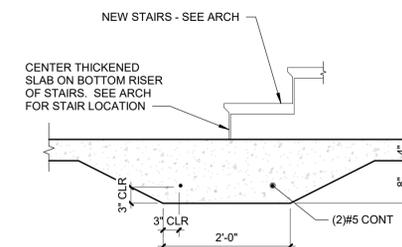
SHEET TITLE:

FOUNDATION DETAILS

SHEET NUMBER:

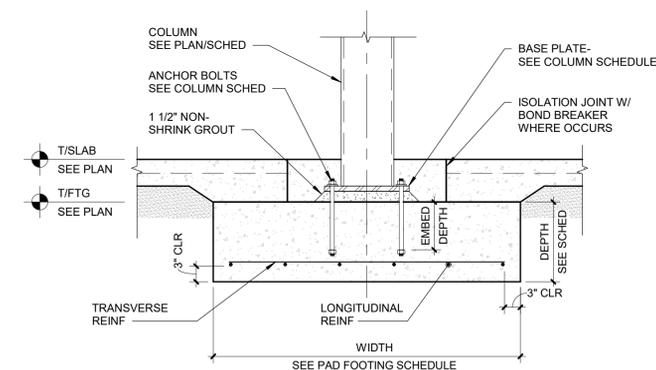
S3.1

PROJECT NO.: 0230585.00



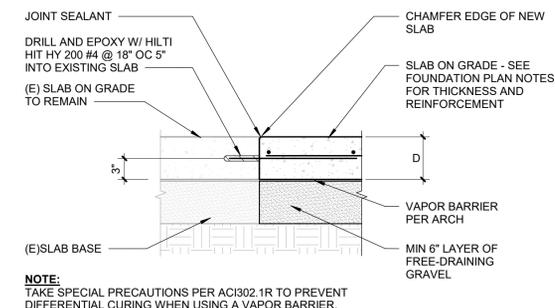
4 THICKENED SLAB AT NEW STAIRS

SCALE: 3/4" = 1'-0"



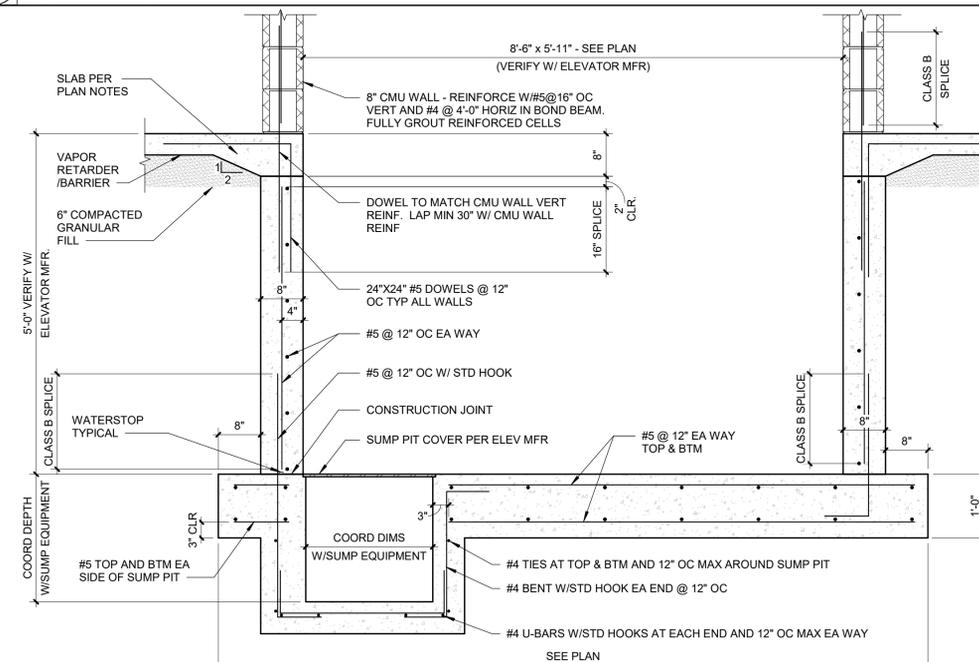
3 TYPICAL PAD FOOTING DETAIL

SCALE: 3/4" = 1'-0"



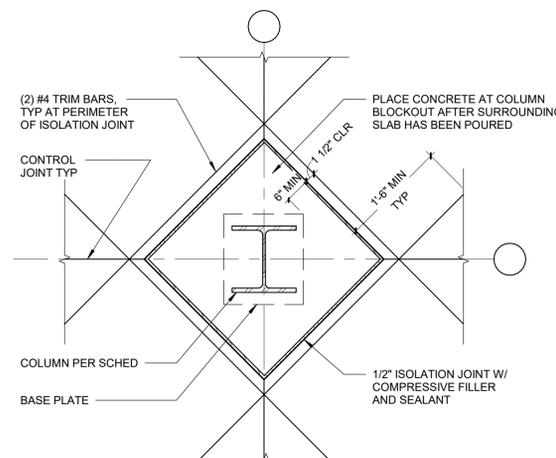
2 (N) SLAB ON GRADE TO (E) SLAB ON GRADE

SCALE: 1" = 1'-0"



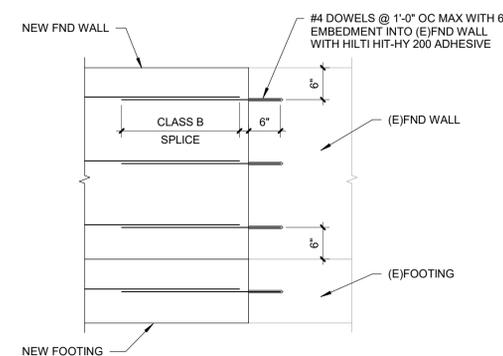
1 SECTION THROUGH ELEVATOR PIT

SCALE: 3/4" = 1'-0"



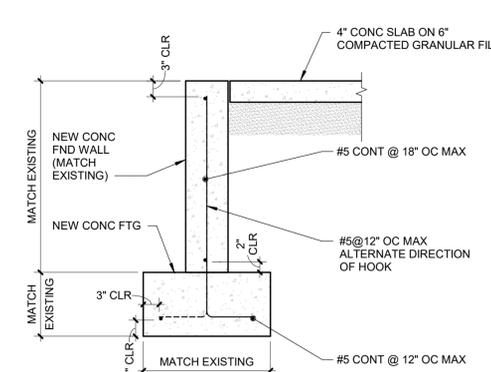
7 TYP ISOLATION JOINTS AT NEW COLUMNS

SCALE: 3/4" = 1'-0"



6 NEW FND TO (E)FND

SCALE: 3/4" = 1'-0"



5 NEW FOUNDATION AT ENTRANCE

SCALE: 3/4" = 1'-0"



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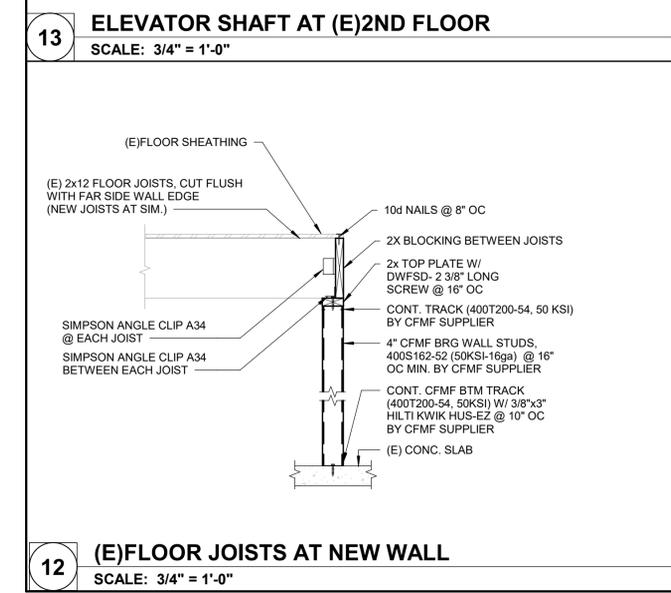
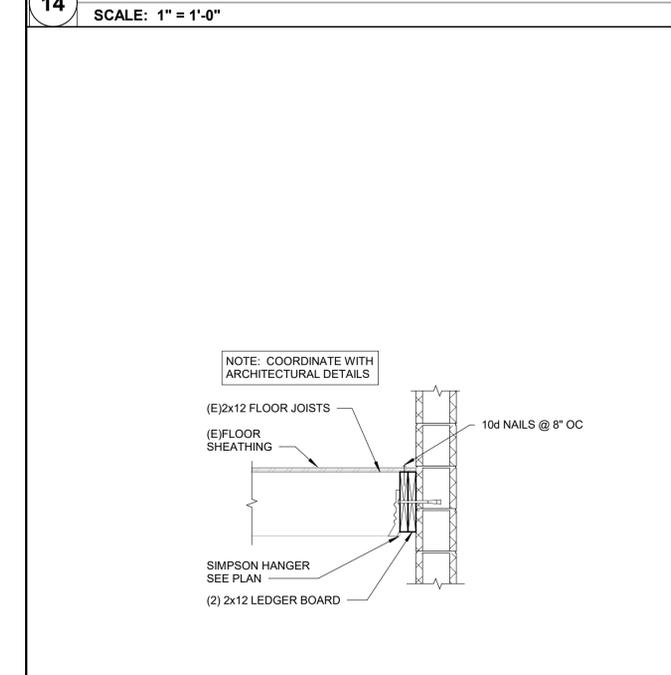
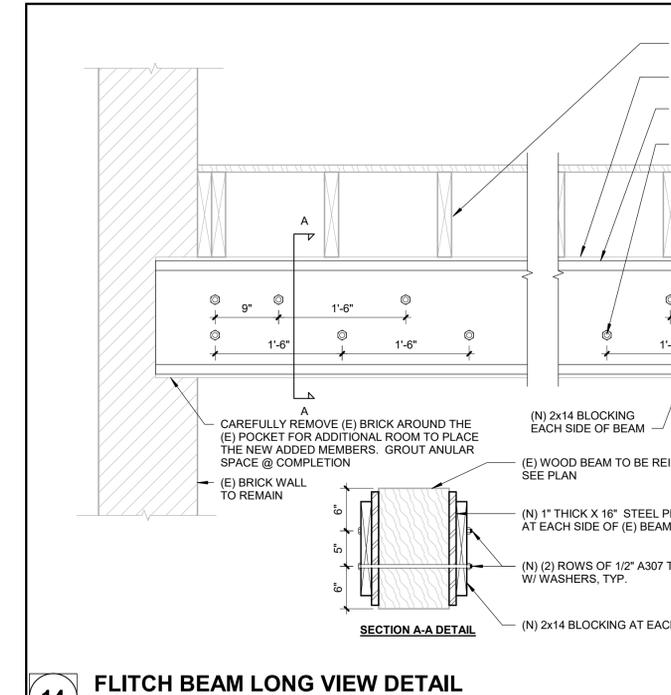
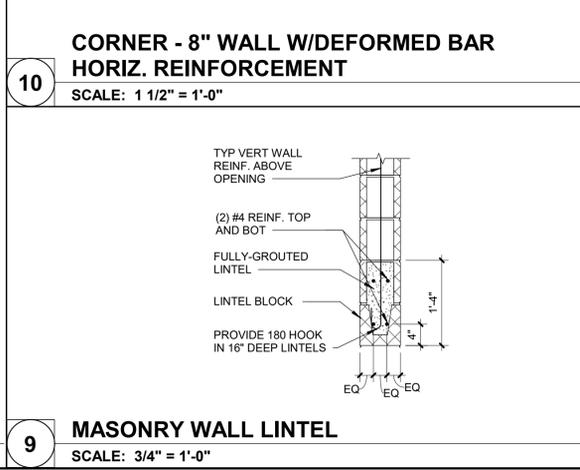
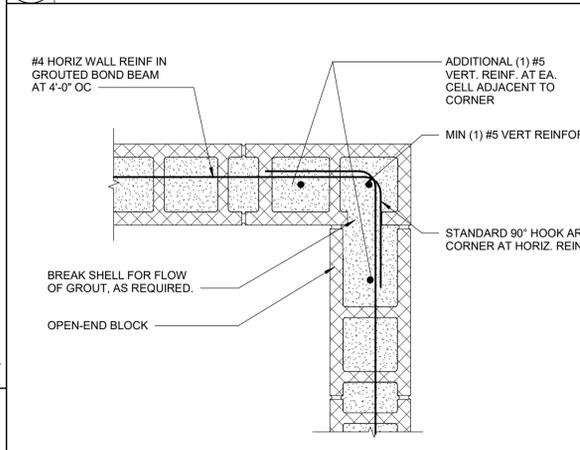
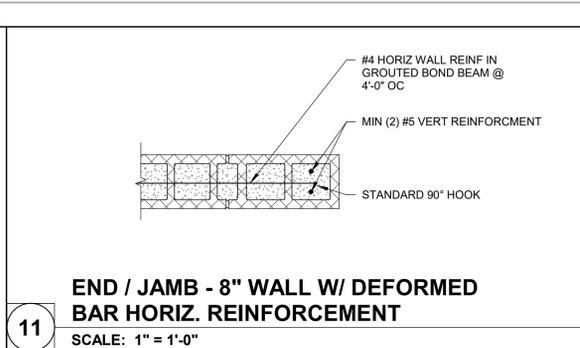
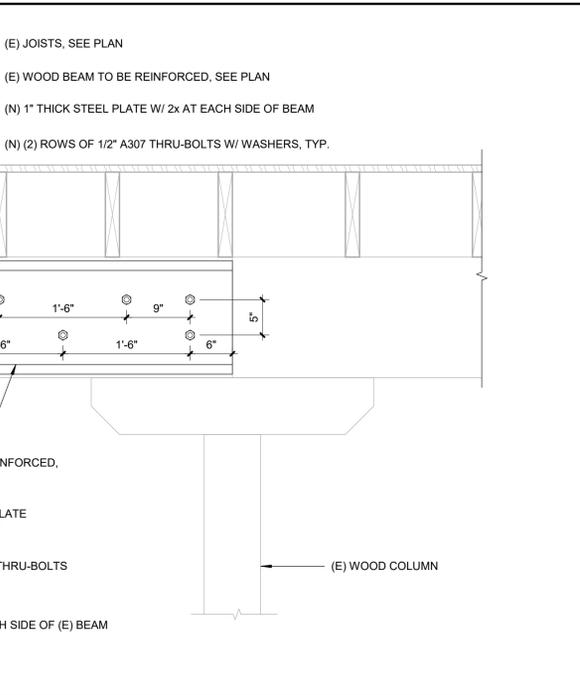
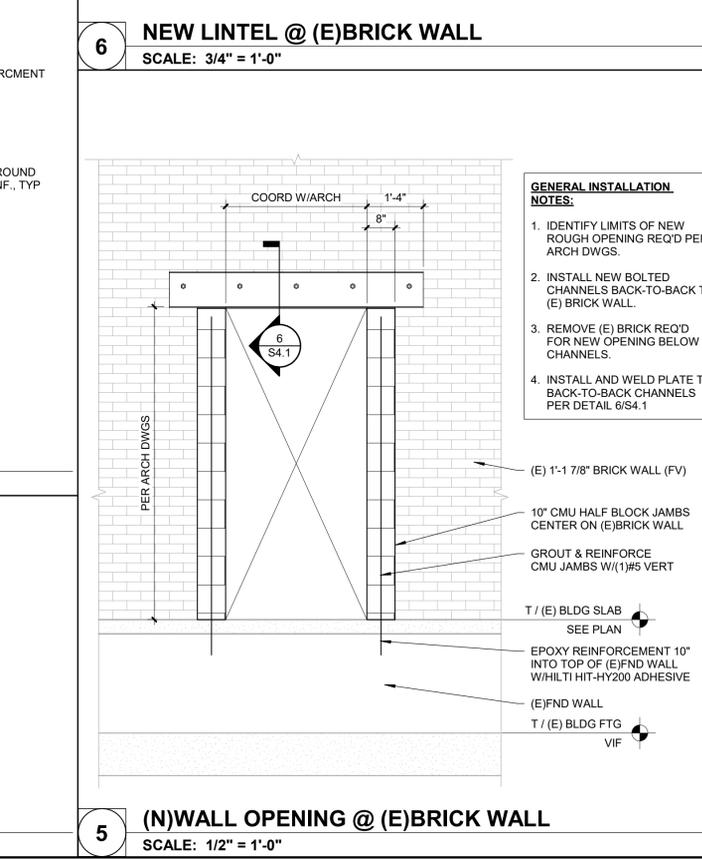
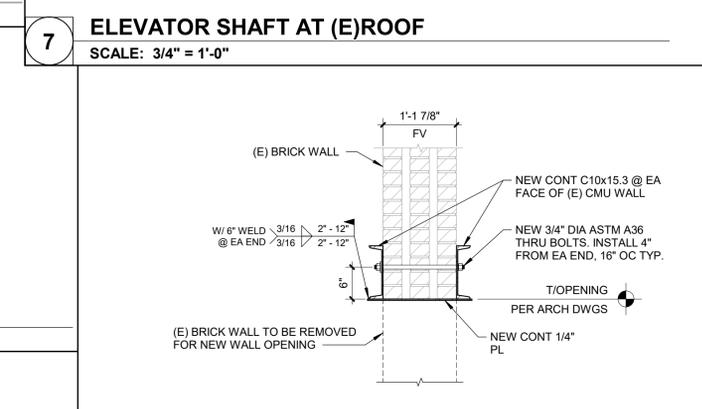
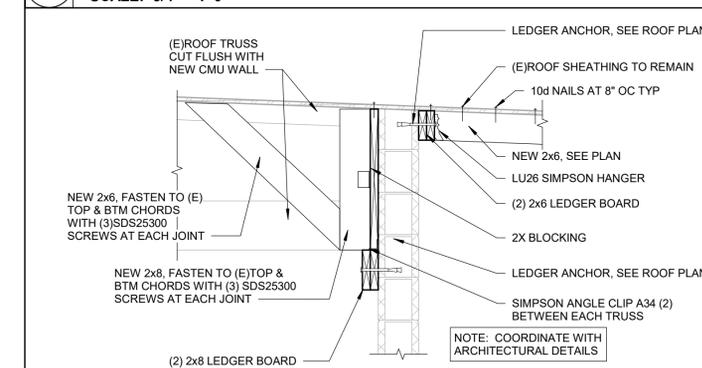
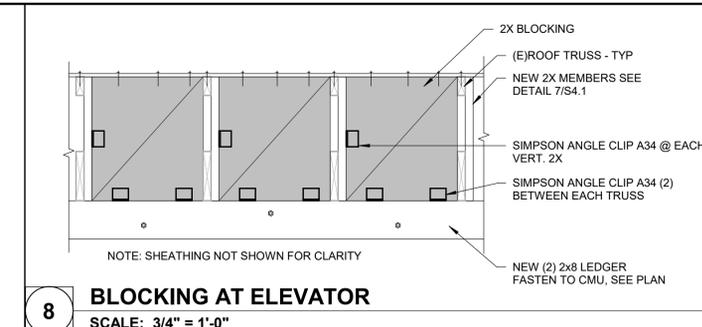
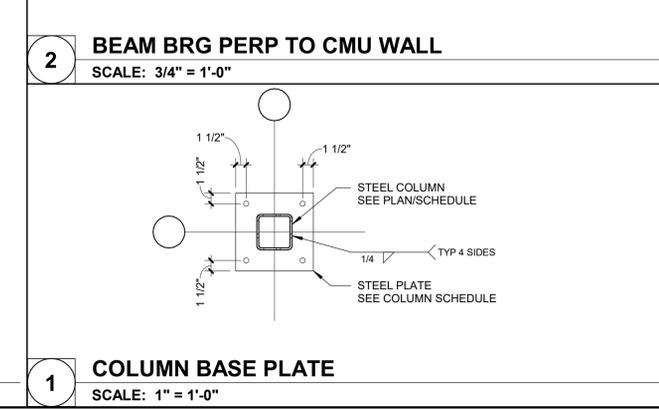
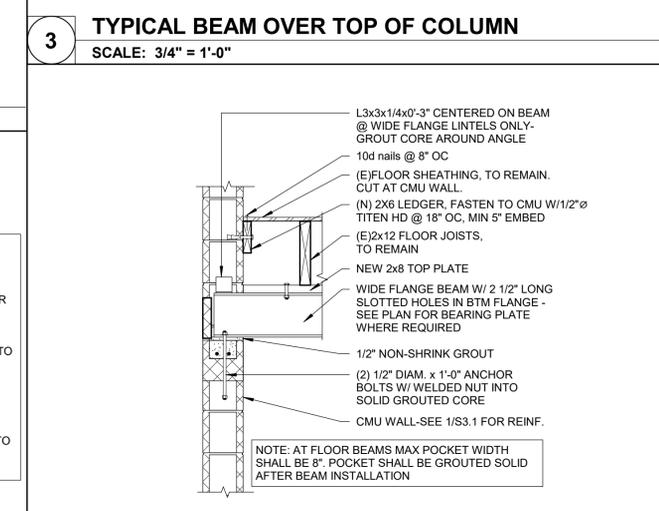
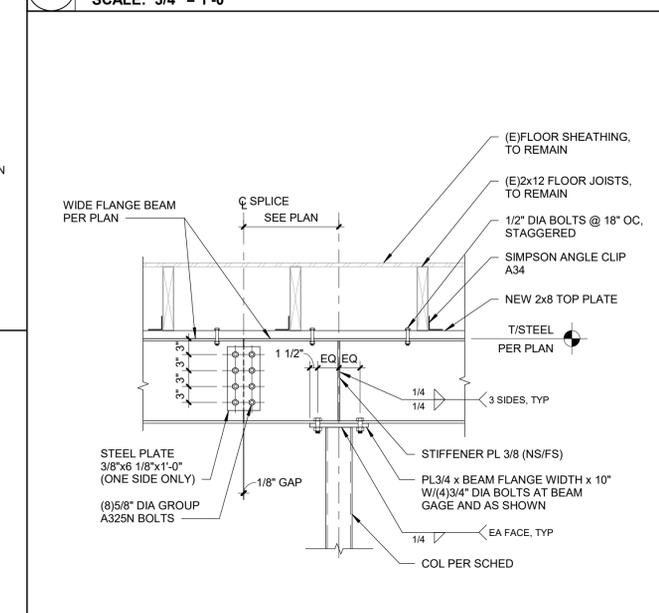
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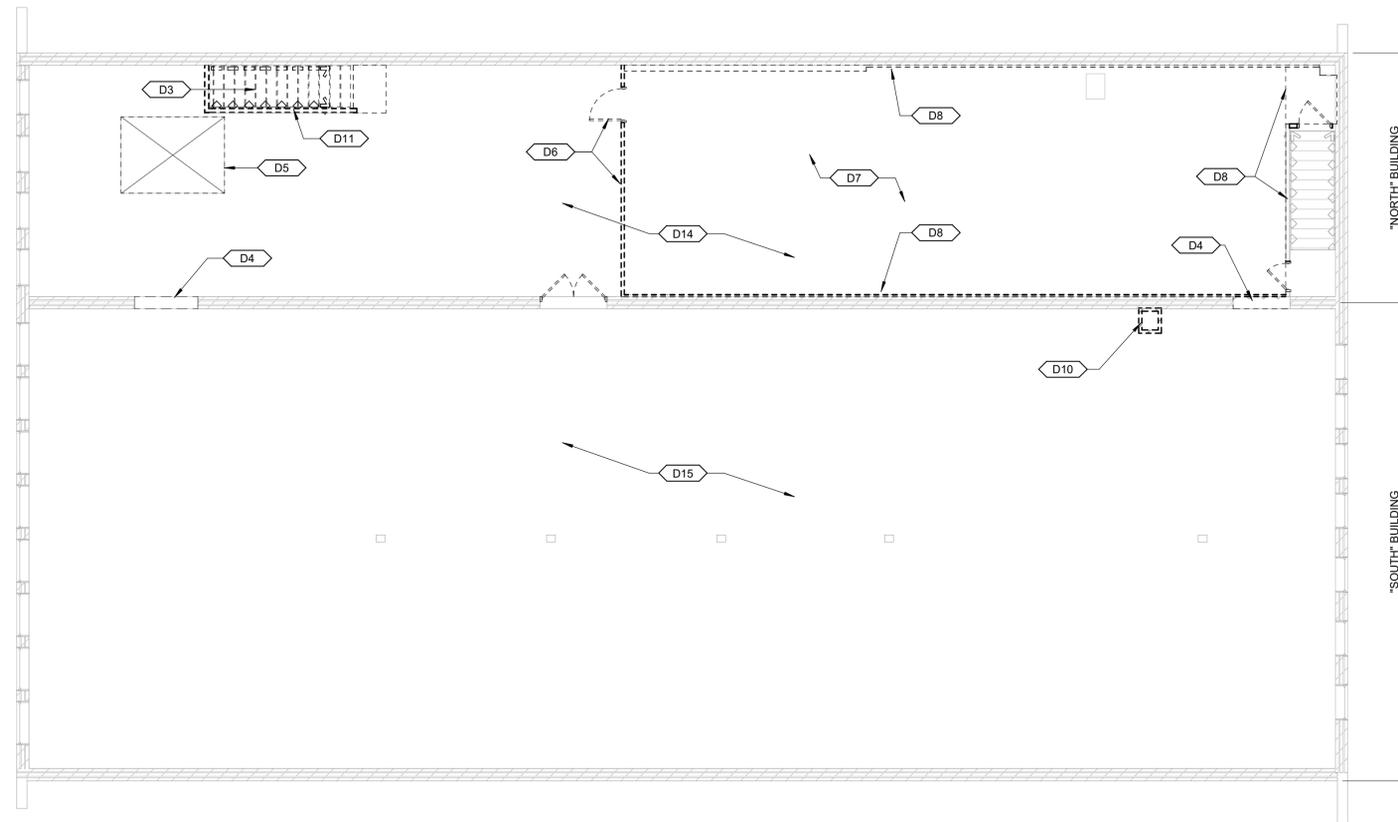
FRAMING DETAILS

SHEET NUMBER:

S4.1

PROJECT NO.: 0230585.00





2 SECOND FLOOR DEMOLITION FLOOR PLAN
Scale: 1/8" = 1'-0"

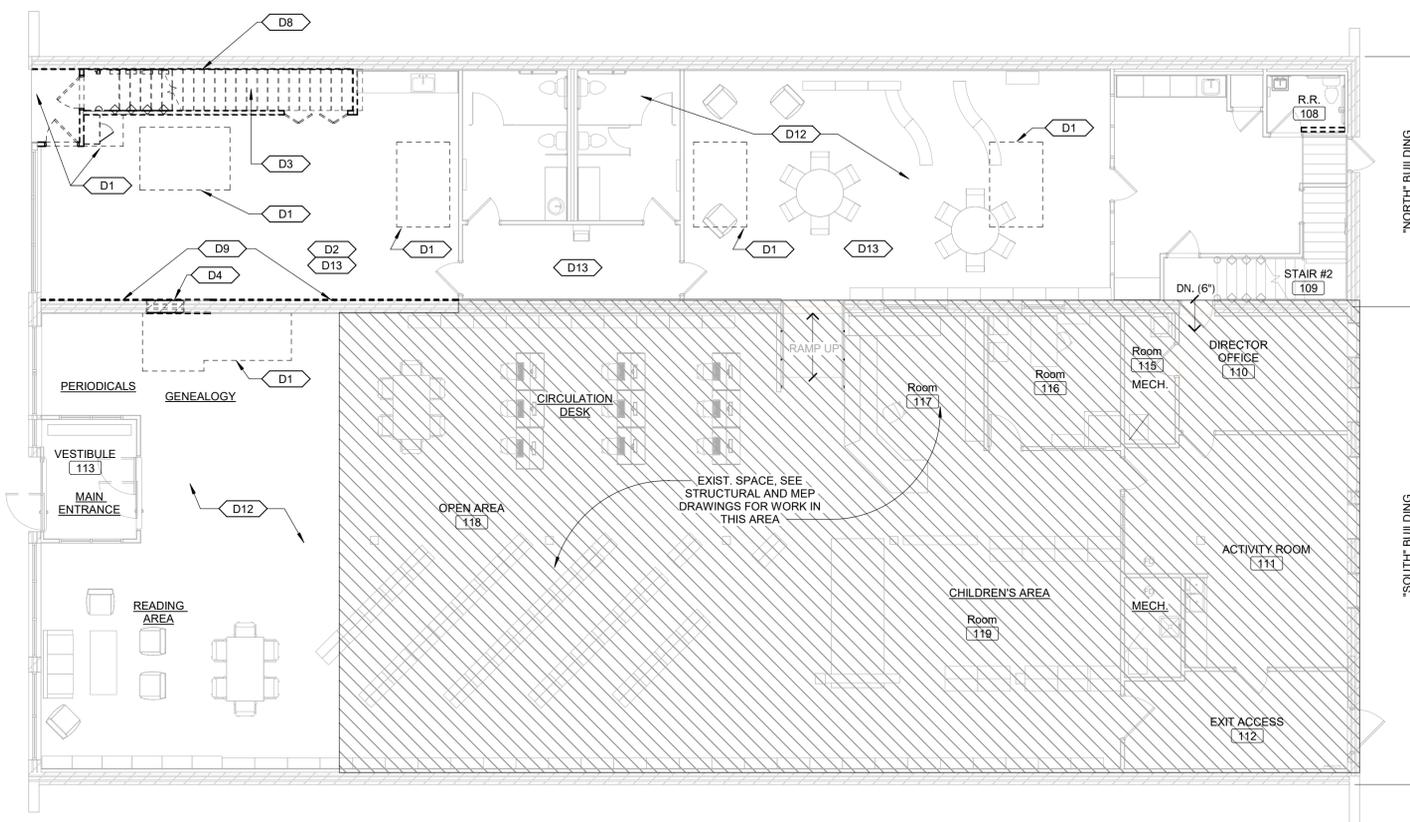


DEMOLITION GENERAL NOTES

- A. EXISTING CONSTRUCTION SHOWN DASHED IS TO BE DEMOLISHED - COORDINATE WITH NEW CONSTRUCTION
- B. ALL ITEMS INDICATED TO BE DEMOLISHED SHALL BE REMOVED AS TO FULLY ALLOW FOR THE PROPER FURNISHING AND INSTALLATION OF ALL SCHEDULED NEW WORK. THIS SHALL INCLUDE DEMOLITION OF ADJACENT ITEMS, ACCESSORIES, AND APPURTENANCES AS NECESSARY.
- C. DEMOLITION DRAWINGS ILLUSTRATE MAJOR ITEMS TO BE REMOVED. CONTRACTOR SHALL COORDINATE THESE DRAWINGS WITH NEW WORK DRAWINGS AND SHALL BE RESPONSIBLE FOR OTHER ITEMS REQUIRED TO BE DEMOLISHED TO ACCOMMODATE NEW WORK.
- D. THE CONTRACTOR IS RESPONSIBLE FOR RETAINING AND RELOCATING ALL SALVAGE AS DESIGNATED BY THE OWNER'S REPRESENTATIVE.
- E. THE CONTRACTOR IS RESPONSIBLE FOR STORAGE AND PROTECTION OF ALL SALVAGE ITEMS.
- F. PROTECT ALL FINISHES TO REMAIN FROM DAMAGE DURING DEMOLITION AND CONSTRUCTION.
- G. PRIOR TO DEMOLITION, ENSURE THE STABILITY OF ANY WALLS TO REMAIN.
- H. PROJECTS SHALL REMAIN IN COMPLIANCE WITH ALL ASPECTS OF ALL GOVERNING CODES AND ORDINANCES DURING THE COURSE OF CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, EXISTING FIRE ALARM SYSTEM(S) SMOKE/FIRE DETECTION SYSTEM(S), SPRINKLER SYSTEM(S).
- I. DEMOLITION OF FLOOR FINISHES INCLUDES REMOVAL OF ADHESIVES, GROUTING BEDS, RESILIENT BASE, ETC.
- J. REMOVAL OF EXISTING PLUMBING FIXTURES TO INCLUDE PIPING, WASTE LINES, ETC. LINES ARE TO BE CAPPED AS REQUIRED. SEE PLUMBING DRAWINGS.
- K. REMOVAL OF EXISTING HVAC TO INCLUDE DUCTWORK, HANGERS, GRILLES, DIFFUSERS, ETC. SEE MECHANICAL DRAWINGS.
- L. REMOVAL OF EXISTING ELECTRICAL SYSTEMS TO INCLUDE CONDUIT, BOXES, WIRE, CABLE, SUPPORTS, WIRING DEVICES, SAFETY SWITCHES, FIRE ALARM EQUIPMENT, SPEAKERS, TELEPHONE OUTLETS AND LIGHT FIXTURES. SEE ELECTRICAL DRAWINGS.
- M. HAZARDOUS MATERIALS INCLUDING, BUT NOT LIMITED TO, ASBESTOS AND/OR LEAD PAINT, IS ENCOUNTERED ON THE PROJECT SITE, THE OWNER SHALL ENGAGE A TESTING COMPANY TO IDENTIFY AREAS AND PROVIDE APPROPRIATE ABATEMENT. DEMOLITION CONTRACTOR SHALL COORDINATE ALL ACTIVITIES WITH ABATEMENT CONTRACTOR.

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1 FIRST FLOOR DEMOLITION FLOOR PLAN
Scale: 1/8" = 1'-0"



DEMOLITION KEYNOTES

DIVISION 00	
D1	REMOVE SECTION OF EXIST. CONC. SLAB FOR NEW CONCRETE WORK BELOW SLAB. SEE NEW WORK FOR DIMENSIONS AND STRUCTURAL FOR ADDITIONAL INFORMATION
D2	REMOVE EXIST. CHAIR-RAIL. PREP WALL FOR NEW FINISHES
D3	REMOVE EXIST. WOOD STAIR
D4	REMOVE PORTION OF EXISTING MASONRY BEARING WALL FOR NEW WALL OPENING. SEE NEW WORK FOR DIMENSIONS AND STRUCTURAL FOR LINTEL INFORMATION
D5	REMOVE PORTION OF EXIST. FLOOR, INCLUDING 2x12 FLOOR JOISTS, FOR NEW ELEVATOR SHAFT CONSTRUCTION. PROVIDE TEMPORARY SHORING AS REQ'D., SEE STRUCTURAL FOR ADDITIONAL INFORMATION
D6	REMOVE EXISTING WALL PARTITION AND DOOR
D7	G.C. TO RELOCATE REMAINING ITEMS IN THIS ROOM TO UNOCCUPIED ATTIC SPACE (ADJACENT TO MEETING ROOM 209). WHEN CONSTRUCTION IS FINISHED, RELOCATE ITEMS FROM UNOCCUPIED SPACE TO STORAGE 206
D8	REMOVE EXIST. WOOD PANELING FROM WALL, WALL CONSTRUCTION BEHIND PANELING TO REMAIN
D9	REMOVE EXIST. PLASTER FROM MASONRY WALL TO EXPOSE BRICK. DO NOT DAMAGE EXIST. BRICK DURING PLASTER REMOVAL. PATCH MASONRY WALL AS REQ'D. - BRICK TO REMAIN EXPOSED WITH NO PAINT OR OTHER WALL FINISH
D10	REMOVE BRICK ENCLOSURE (SECOND FLOOR ONLY)
D11	REMOVE SECTION OF EXIST. 2x12 FLOOR JOISTS, FOR NEW WOOD STAIR CONSTRUCTION. PROVIDE TEMPORARY SHORING AS REQ'D., SEE STRUCTURAL FOR ADDITIONAL INFORMATION
D12	EXISTING CONSTRUCTION DISTURBED BY NEW WORK REQUIRING TO REINFORCE SECOND FLOOR (NEW FOOTINGS, COLUMNS, BEAMS, JOISTS, ETC.) IS TO BE PATCHED AND PAINTED (OR PREPARED FOR OTHER SCHEDULED FINISH). REMOVE AND REINSTALL EXISTING ITEMS AS REQ'D. IF PAINTING IS REQ'D., ENTIRE WALL SHALL RECEIVE PAINT
D13	REMOVE EXISTING CARPET AND BASE. PREP FOR NEW FLOORING AND BASE MATERIAL
D14	REMOVE EXISTING OSBPLYWOOD SHEATHING FROM EXISTING 1x WOOD FLOORBOARDS (1x BOARDS TO REMAIN) FOR INSTALLATION OF NEW FLOOR SHEATHING (TYPICAL AT "NORTH" BUILDING)
D15	REMOVE EXISTING 1x WOOD FLOORBOARDS FROM EXISTING FLOOR JOISTS (JOISTS TO REMAIN) TO ALLOW FOR INSTALLATION OF NEW SISTERED JOISTS - SEE STRUCTURAL FOR MORE INFORMATION (TYPICAL AT "SOUTH" BUILDING)

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DESIGNED: SB

DRAWN: AG

REVIEWED: LU

SHEET TITLE:
FIRST & SECOND FLOOR DEMOLITION PLAN

SHEET NUMBER:

AD1.1

PROJECT NO.: 0230585.00



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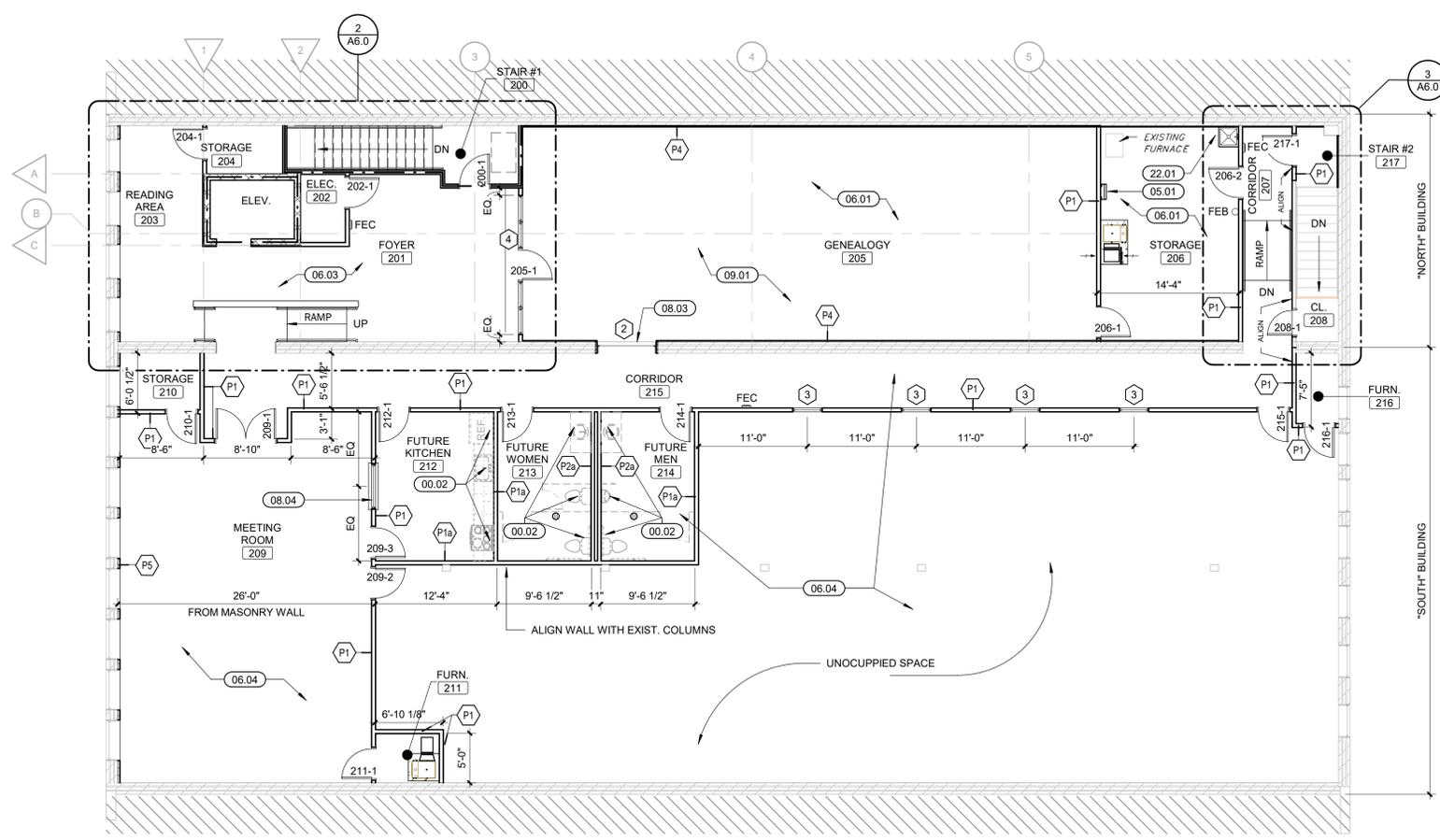
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PLAN GENERAL NOTES

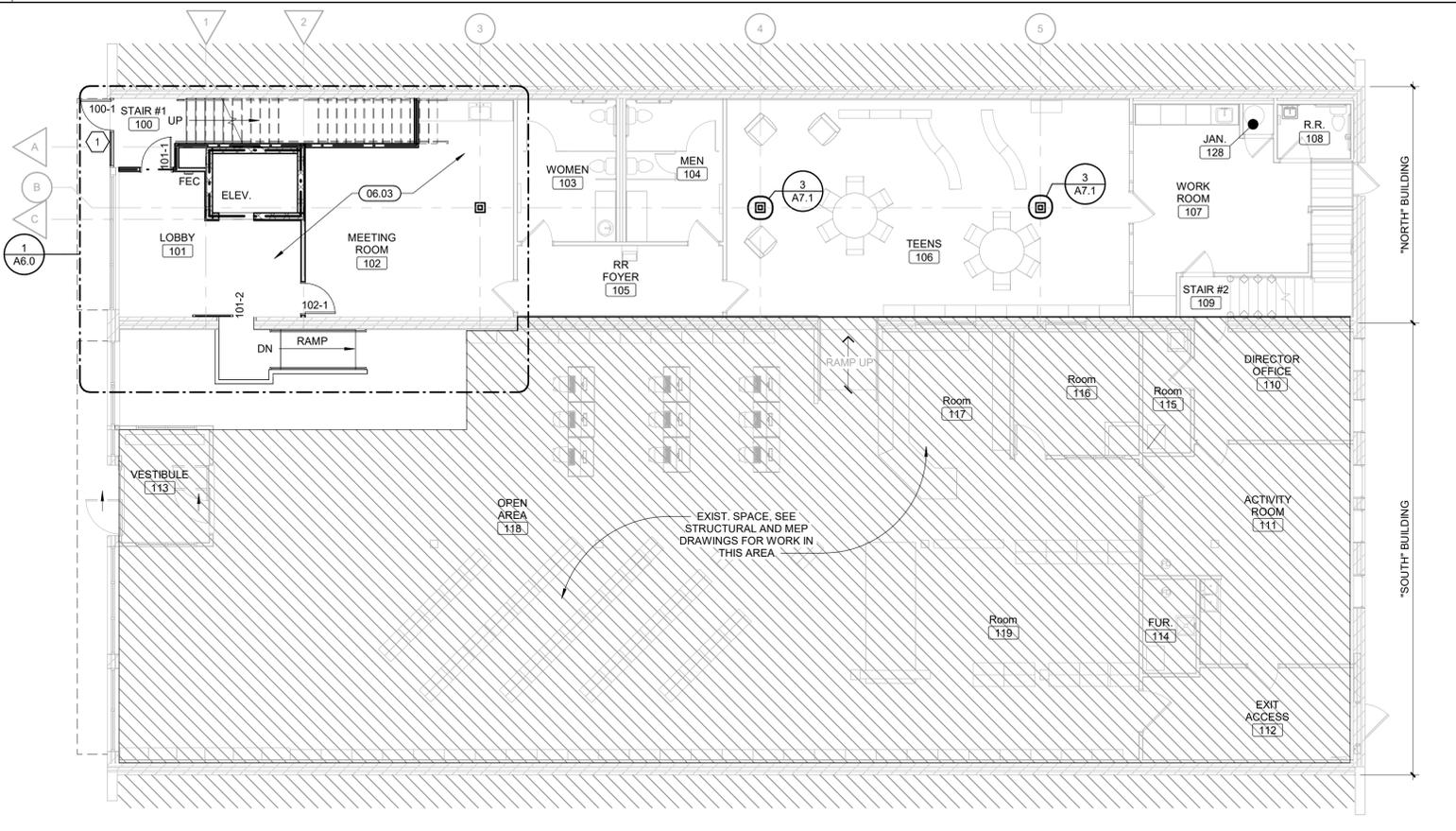
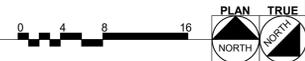
- A. ALL DIMENSIONS ARE TO FACE OF STUD, CMU AND/OR CONCRETE UNLESS NOTED OTHERWISE.
- B. ALL WOOD IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED.
- C. INSTALL ALL WORK IN ACCORDANCE WITH CURRENT APPLICABLE CODES, PUBLISHED STANDARDS, AND ACCEPTABLE CONSTRUCTION STANDARDS.
- D. ALL NEW WORK SHALL BE PLUMB AND LEVEL UNLESS OTHERWISE NOTED.
- E. ALL FIRE RESISTANT CONSTRUCTION SHALL EXTEND TO STRUCTURE ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXTENDING PARTITIONS AROUND EQUIPMENT CABINETS AND OTHER ITEMS WHICH PENETRATE THESE PARTITIONS, AND SHALL BE RESPONSIBLE FOR FILLING ALL VOIDS IN PARTITIONS ABOVE CEILING, IN ORDER TO MAINTAIN DESIGNATED FIRE RESISTANCE.
- F. DISSIMILAR FLOOR MATERIALS SHALL MEET UNDER CENTER OF DOOR LEAF
- G. DO NOT SCALE DRAWINGS TO DETERMINE DIMENSIONS. IF A REQUIRED DIMENSION IS NOT INDICATED, CONTACT THE ARCHITECT FOR DETERMINATION.
- H. DETAILS ARE GENERALLY TYPICAL AND ARE NOT TO BE CONSTRUED AS LIMITED TO THOSE AREAS SPECIFICALLY INDICATED. REVIEW ANY QUESTIONS OR CONFLICTING INFORMATION WITH THE ARCHITECT PRIOR TO INSTALLATION.
- I. THE CONTRACTOR SHALL NOT CUT STRUCTURAL MEMBERS/ELEMENTS IN A MANNER RESULTING IN A REDUCTION OF LOAD CARRYING CAPACITY OR LOAD/DEFLECTION RATIO.
- J. HINGE SIDE OF DOOR JAMBS TO BE LOCATED 4" FROM NEAREST WALL INTERSECTION UNLESS OTHERWISE NOTED.
- K. PAINT ALL STEEL DOORS, DOOR FRAMES, INTERIOR BORROW LITE FRAMES, LINTELS AND OTHER EXPOSED METAL ITEMS UNLESS OTHERWISE NOTED OR SHOWN.
- L. FURNITURE IS SHOWN FOR REFERENCE ONLY AND IS NOT IN CONTRACT.
- M. EXISTING CONDITION INFORMATION SHOWN WITHIN THE PROJECT AREA IS BASED ON FIELD OBSERVATION AND EXISTING DRAWING DOCUMENTATION. ALL EXISTING CONDITION INFORMATION SHOWN OUTSIDE THE PROJECT AREA IS PROVIDED FOR REFERENCE ONLY AND HAS NOT BEEN FIELD VERIFIED. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING ANY NEW WORK AND SHALL BRING AND DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT/ENGINEER PRIOR TO DEMOLITION AND CONSTRUCTION.
- N. PROVIDE TEMPORARY BRACING OF EQUIPMENT, MATERIALS OR OTHER DEVICES AS REQUIRED DURING AND AFTER DEMOLITION UNTIL NEW CONSTRUCTION IS COMPLETE.

FLOOR PLAN KEYNOTES

DIVISION 00	
00.01	AREA OF RESCUE ASSISTANCE (30'x48') - PROVIDE TWO-WAY COMMUNICATION (VISIBLE AND AUDIBLE SIGNALS) BETWEEN AREA OF RESCUE ASSISTANCE AND PRIMARY ENTRY. PROVIDE ILLUMINATED SIGN @ AREA OF RESCUE ASSISTANCE WHICH STATES "AREA OF RESCUE ASSISTANCE" AND DISPLAYS THE INTERNATIONAL SYMBOL OF ACCESSIBILITY
00.02	FUTURE PLUMBING FIXTURES, CABINETS AND APPLIANCES - SEE PLUMBING FOR ROUGH-IN WORK
00.03	EXISTING EXPOSED WOOD ROOF STRUCTURE (NO NEW PAINT OR OTHER FINISH)
DIVISION 03	
03.01	RAMP/LANDING - CONCRETE
DIVISION 05	
05.01	STEEL LADDER TO ROOF HATCH ABOVE; ROOF HATCH BY OTHERS (N.I.C.) - COORDINATE WITH OWNER. SIDERAILS: CONTINUOUS, 3/8"-BY-2-1/2"-INCH STEEL FLAT BARS, WITH EASED EDGES, SPACE SIDERAILS 20 INCHES APART. RUNGS: 1"-INCH DIA. STEEL ROD SPACED 12 INCHES ON CENTER, SPACE RUNGS 7 INCHES FROM WALL SURFACE WITH STEEL BRACKETS. FIT RUNGS IN CENTERLINE OF SIDERAILS; PLUG-WELD AND GRIND SMOOTH ON OUTER RAIL FACES. PROVIDE NONSLIP SURFACES ON TOP OF EACH RUNG. PRIME LADDERS, INCLUDING BRACKETS AND FASTENERS, AND APPLY FINISH PAINT.
DIVISION 06	
06.01	5/8" (MIN.) WOOD STRUCTURAL PANELS OVER EXISTING 1x WOOD FLOORBOARDS (TYPICAL AT "NORTH" BUILDING; SEE NOTE 06.03 FOR FIRE-RESISTANCE RATED CEILING/FLOOR ASSEMBLY)
06.02	RAMP/LANDING - 3/4" WOOD STRUCTURAL PANELS OVER 2x WOOD FRAMING @ 16" O.C.
06.03	FIRE-RESISTANCE RATED CEILING/FLOOR ASSEMBLY (UL# L501 - 1 HOUR RATING SYSTEM) - CEILING/FLOOR ABOVE STAIR#1 100, LOBBY 101, AND MEETING ROOM 102. INSTALL 5/8" (MIN.) WOOD STRUCTURAL PANELS (MIN. GRADE "UNDERLAYMENT" OR "SINGLE-FLOOR" - FACE GRAIN OF PLYWOOD OR STRENGTH AXIS OF PANELS TO BE PERPENDICULAR TO JOISTS WITH JOINTS STAGGERED) OVER EXISTING 1x WOOD FLOORBOARDS. INSTALL VAPOR BARRIER (NOMINAL 0.010" COMMERCIAL ROSIN-SIZED BUILDING PAPER) BETWEEN EXISTING BOARDS AND WOOD STRUCTURAL PANELS. INSTALL 5/8" THICK, 48" WIDE GYPSUM BOARD (INSTALL WITH LONG DIMENSION PERPENDICULAR TO JOISTS; SECURE GYPSUM BOARD WITH 1-7/8" LONG, 6D CEMENT COATED NAILS SPACED 6" O.C., SEE SPECIFICATION SECTION 09 29 00 FOR SPECIALTY GYPSUM BOARD TYPE) TO UNDERSIDE OF EXISTING WOOD FLOOR JOISTS
06.04	3/4" TONGUE AND GROOVED WOOD STRUCTURAL PANELS (GLUED AND NAILED @ 8" O.C.) OVER EXISTING SISTERED FLOOR JOISTS - SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION. INSTALL LOOSE FILL BATT INSULATION BETWEEN FLOOR JOISTS TO IMPROVE ACOUSTIC PROPERTIES OF THE FLOOR (TYPICAL AT "SOUTH" BUILDING)
DIVISION 08	
08.01	ALUMINUM STOREFRONT AND ENTRANCE DOOR SYSTEM
08.02	SLIDING BARN DOOR AND OVERHEAD TRACK ASSEMBLY - SEE DOOR SCHEDULE
08.03	HOLLOW METAL FRAME AND GLASS BORROWED LITE IN EXISTING MASONRY OPENING
08.04	ALUM. SLIDING SERVICE WINDOW; BASIS OF DESIGN: C.R. LAURENCE CO., INC. (800) 421-6144, DW 1800 WITH SELF LATCHING HANDLE, HALF TRACK, CLEAR ANODIZED FINISH, 1/2" TEMPERED GLASS, KEYED LOCK. PROVIDE STAINLESS STEEL SHELF/SILL. PRODUCT AS DESCRIBED OR EQUAL. SEE SHEET A7.2
DIVISION 09	
09.01	INSTALL SOUNDPROOFING UNDERLAYMENT UNDER NEW FLOORING (TYPICAL AT SECOND FLOOR OF "NORTH" BUILDING; SEE INTERIOR SHEETS FOR ADDITIONAL INFORMATION)
09.02	GYPSUM DRYWALL SOFFIT TO CONCEAL NEW SANITARY PIPING BELOW SECOND FLOOR. INSTALL SOFFIT CONSTRUCTION AS CLOSE TO NEW PIPING AS FEASIBLE. COORDINATE CLEARANCES WITH PLUMBING
DIVISION 22	
22.01	MOP SINK - SEE PLUMBING



2 SECOND FLOOR PLAN
Scale: 1/8" = 1'-0"



1 FIRST FLOOR PLAN
Scale: 1/8" = 1'-0"



LEGEND

- FIRE RESISTANCE RATED WALL ASSEMBLY (FIRE RATED) - SEE WALL TYPES
- FIRE EXTINGUISHER CABINET
- FIRE EXTINGUISHER BRACKET

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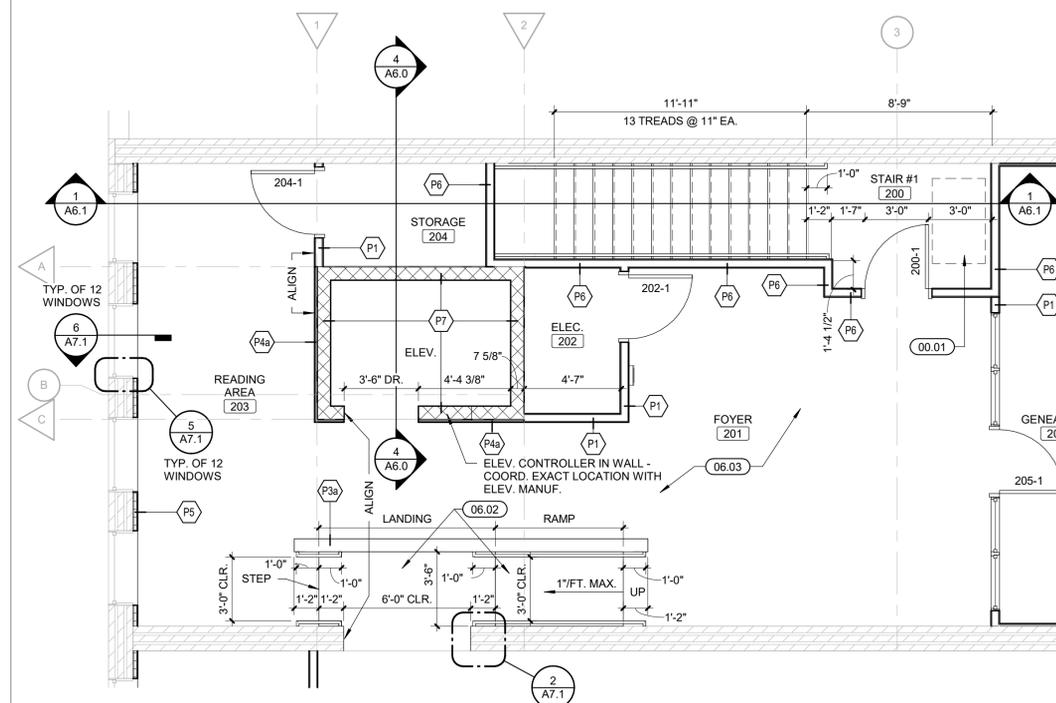
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VERTICAL CIRCULATION

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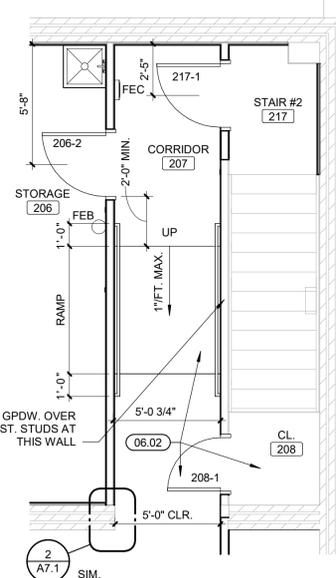
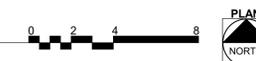
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PROJECT NO.: 0230585.00



2 ENLARGED SECOND FLOOR PLAN

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



3 ENLARGED SECOND FLOOR PLAN

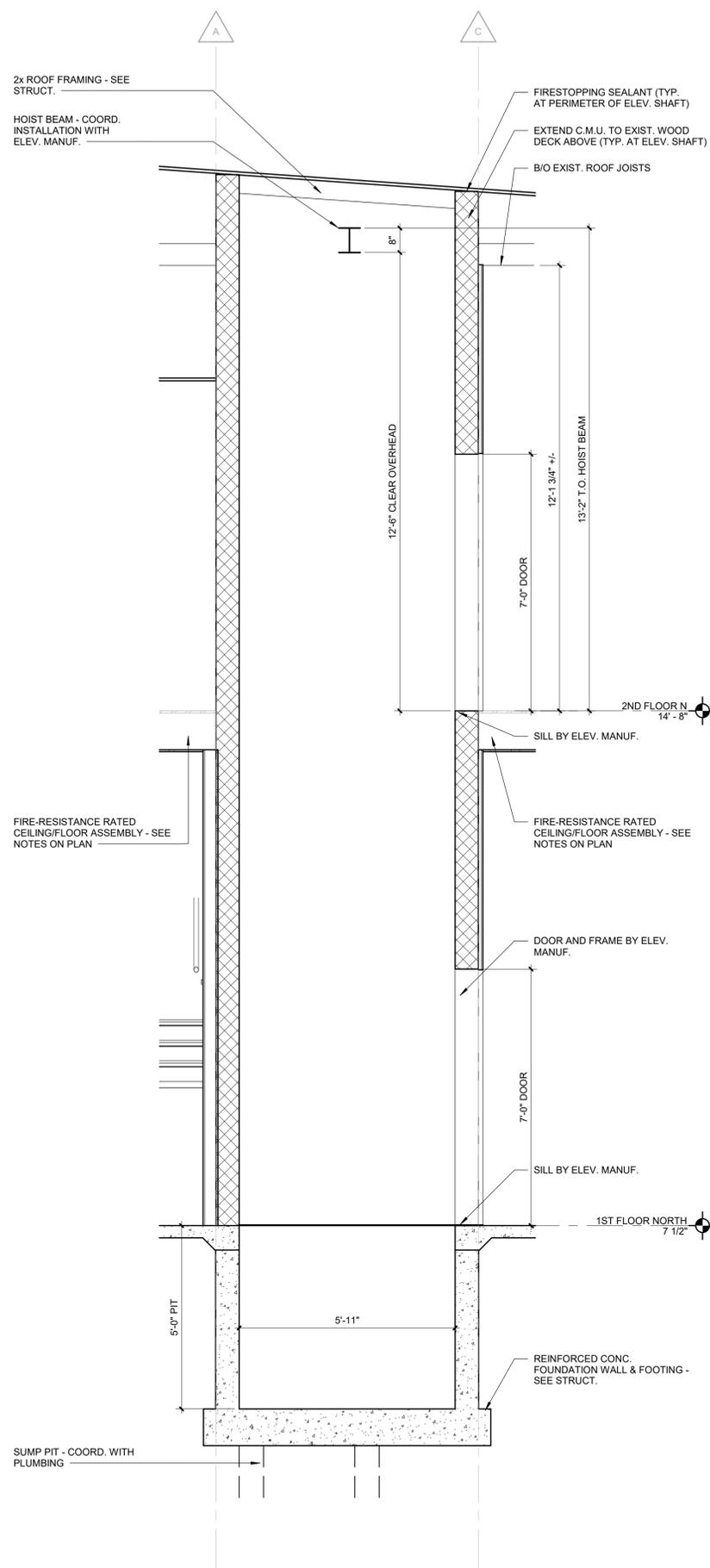
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00.02	FUTURE PLUMBING FIXTURES, CABINETS AND APPLIANCES - SEE PLUMBING FOR ROUGH-IN WORK
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03.01	RAMP/LANDING - CONCRETE
DIVISION 05	
05.01	STEEL LADDER TO ROOF HATCH ABOVE, ROOF HATCH BY OTHERS (N.I.C.) - COORDINATE WITH OWNER, SIDERAILS: CONTINUOUS, 3/8"-BY-2-1/2"-INCH STEEL FLAT BARS, WITH BEADED EDGES, SPACE SIDERAILS 20 INCHES APART, RUNGS: 1-INCH DIA. STEEL ROD SPACED 12 INCHES ON CENTER, SPACE RUNGS 7 INCHES FROM WALL SURFACE WITH STEEL BRACKETS, FIT RUNGS IN CENTERLINE OF SIDERAILS; PLUG-WELD AND GRIND SMOOTH ON OUTER RAIL FACES. PROVIDE NONSLIP SURFACES ON TOP OF EACH RUNG; PRIME LADDERS, INCLUDING BRACKETS AND FASTENERS, AND APPLY FINISH PAINT.
DIVISION 06	
06.01	5/8" (MIN.) WOOD STRUCTURAL PANELS OVER EXISTING 1x WOOD FLOORBOARDS (TYPICAL AT "NORTH" BUILDING, SEE NOTE 06.03 FOR FIRE-RESISTANCE RATED CEILING/FLOOR ASSEMBLY)
06.02	RAMP/LANDING - 3/4" WOOD STRUCTURAL PANELS OVER 2x WOOD FRAMING @ 16" O.C.
06.03	FIRE-RESISTANCE RATED CEILING/FLOOR ASSEMBLY (UL# L501 - 1 HOUR RATING SYSTEM) - CEILING/FLOOR ABOVE STAIR#1 100, LOBBY 101, AND MEETING ROOM 102. INSTALL 5/8" (MIN.) WOOD STRUCTURAL PANELS (MIN. GRADE "UNDERLAYMENT" OR "SINGLE-FLOOR" - FACE GRAIN OF PLYWOOD OR STRENGTH AXIS OF PANELS TO BE PERPENDICULAR TO JOISTS WITH JOINTS STAGGERED) OVER EXISTING 1x WOOD FLOORBOARDS. INSTALL VAPOR BARRIER (NOMINAL 0.010" COMMERCIAL ROHSI-SIZED BUILDING PAPER) BETWEEN EXISTING BOARDS AND WOOD STRUCTURAL PANELS. INSTALL 5/8" THICK, 48" WIDE GYPSUM BOARD (INSTALL WITH LONG DIMENSION PERPENDICULAR TO JOISTS; SECURE GYPSUM BOARD WITH 1-7/8" LONG, 6D CEMENT COATED NAILS SPACED 6" O.C.; SEE SPECIFICATION SECTION 09 29 00 FOR SPECIALTY GYPSUM BOARD TYPE) TO UNDERSIDE OF EXISTING WOOD FLOOR JOISTS
06.04	3/4" TONGUE AND GROOVED WOOD STRUCTURAL PANELS (GLUED AND NAILED @ 8" O.C.) OVER EXISTING SISTERED FLOOR JOISTS - SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION. INSTALL LOOSE FILL BATT INSULATION BETWEEN FLOOR JOISTS TO IMPROVE ACOUSTIC PROPERTIES OF THE FLOOR (TYPICAL AT "SOUTH" BUILDING)
DIVISION 08	
08.01	ALUMINUM STOREFRONT AND ENTRANCE DOOR SYSTEM
08.02	SLIDING BARN DOOR AND OVERHEAD TRACK ASSEMBLY - SEE DOOR SCHEDULE
08.03	HOLLOW METAL FRAME AND GLASS BORROWED LITE IN EXISTING MASONRY OPENING
08.04	ALUM. SLIDING SERVICE WINDOW; BASIS OF DESIGN: C.R. LAURENCE CO., INC. (800) 421-6144, DW 1800 WITH SELF LATCHING HANDLE, HALF TRACK, CLEAR ANODIZED FINISH, 1/2" TEMPERED GLASS, KEYED LOCK. PROVIDE STAINLESS STEEL SHELF/SILL. PRODUCT AS DESCRIBED OR EQUAL. SEE SHEET A7.2
DIVISION 09	
09.01	INSTALL SOUNDPROOFING UNDERLAYMENT UNDER NEW FLOORING (TYPICAL AT SECOND FLOOR OF "NORTH" BUILDING; SEE INTERIOR SHEETS FOR ADDITIONAL INFORMATION)
09.02	GYPSUM DRYWALL SOFFIT TO CONCEAL NEW SANITARY PIPING BELOW SECOND FLOOR. INSTALL SOFFIT CONSTRUCTION AS CLOSE TO NEW PIPING AS FEASIBLE. COORDINATE CLEARANCES WITH PLUMBING
DIVISION 22	
22.01	MOP SINK - SEE PLUMBING

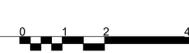
1 ENLARGED FIRST FLOOR PLAN

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



4 ELEVATOR SHAFT SECTION

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



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Farnsworth GROUP

2211 W. BRADLEY AVENUE
CHAMPAIGN, ILLINOIS 61821
(217) 352-7408 / info@f-w.com

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Permit / Bid Set

PROJECT:
THE CITY OF MARSHALL

MARSHALL PUBLIC LIBRARY PHASE II RENOVATIONS

612 ARCHER AVE. MARSHALL, IL 62441

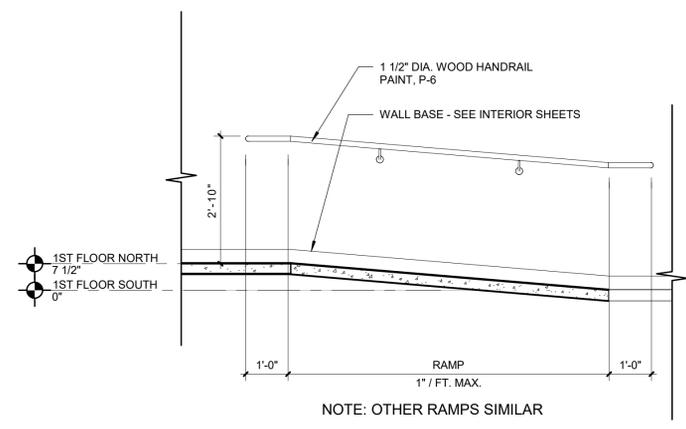
DATE: 11/09/2023
DESIGNED: SB
DRAWN: AG
REVIEWED: LU

VERTICAL CIRCULATION

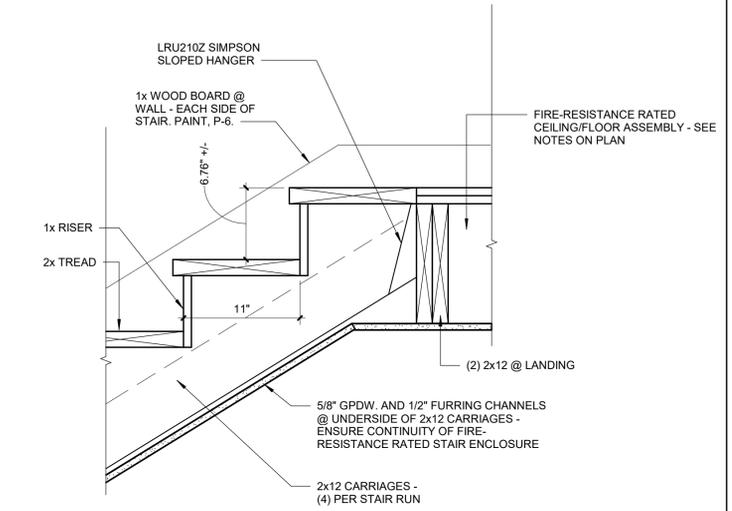
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A6.1

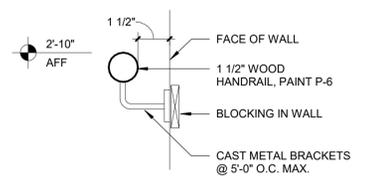
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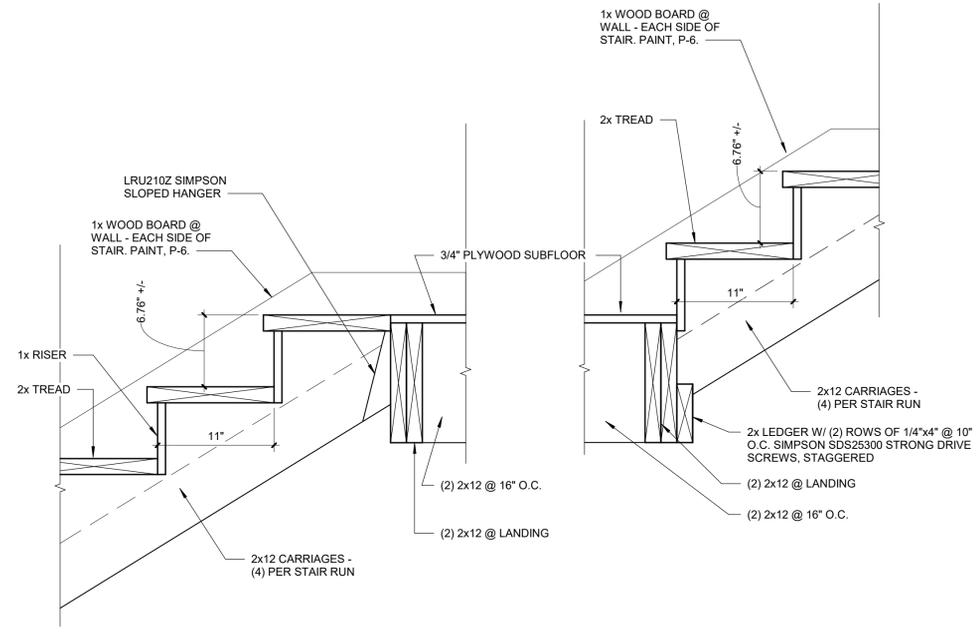
5 RAMP SECTION DETAIL
Scale: 1/2" = 1'-0"



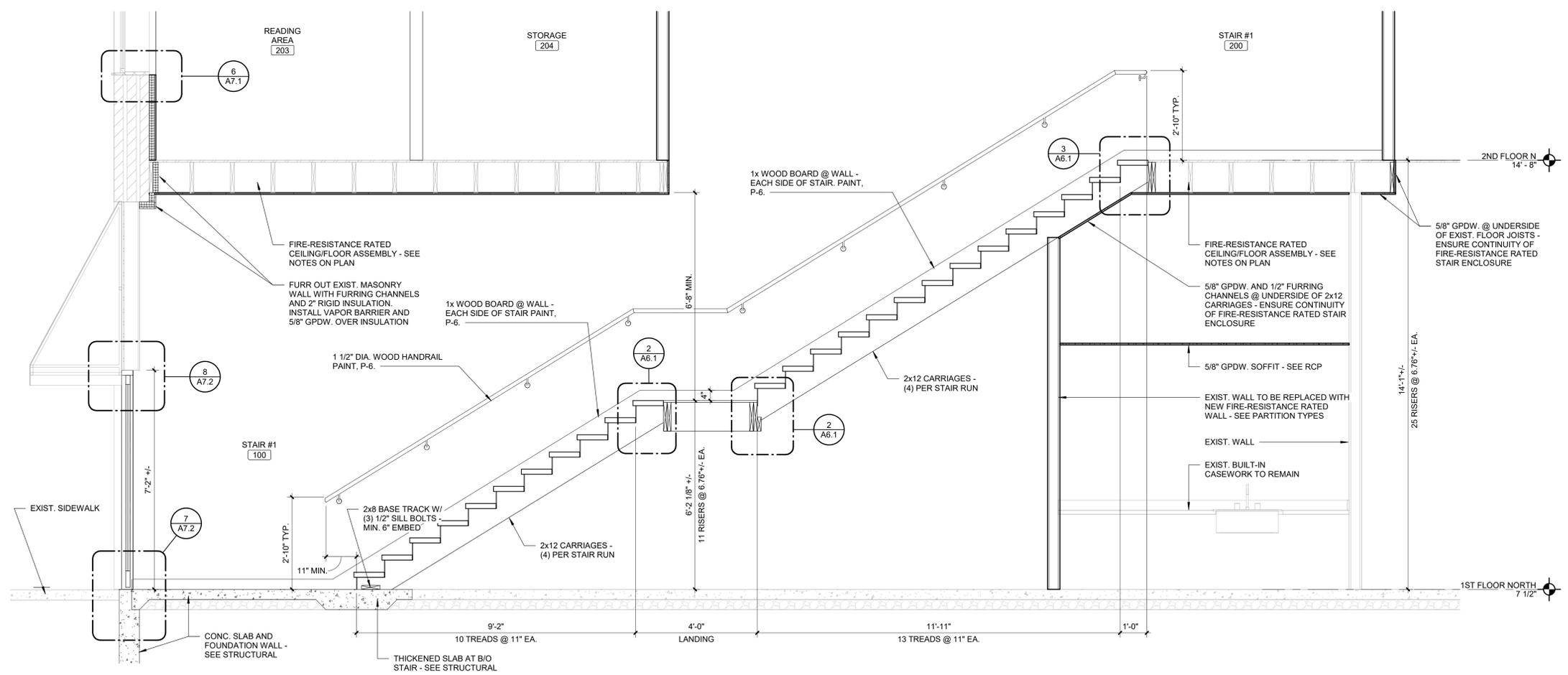
3 STAIR DETAIL @ SECOND FLOOR
Scale: 1 1/2" = 1'-0"



6 HANDRAIL DETAIL @ WALL
Scale: 3" = 1'-0"

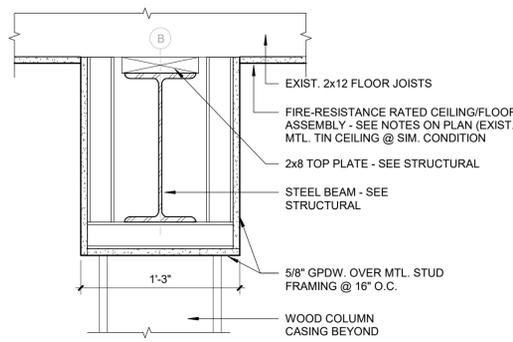


2 STAIR DETAIL @ LANDING
Scale: 1 1/2" = 1'-0"

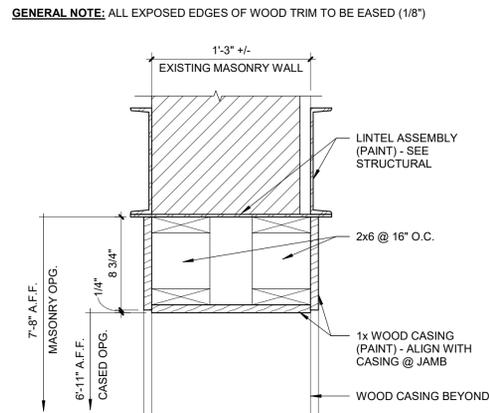


1 STAIR SECTION
Scale: 1/2" = 1'-0"

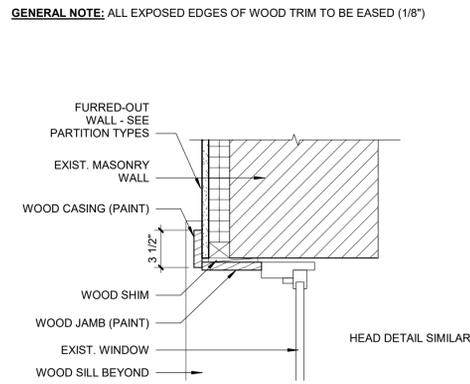
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7 BEAM ENCLOSURE DETAIL
Scale: 1 1/2" = 1'-0"



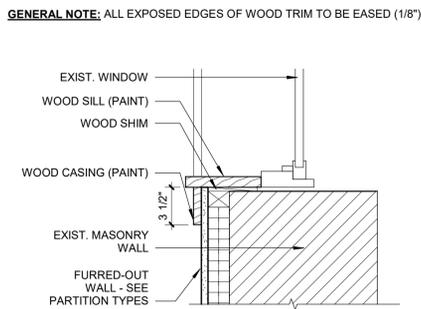
4 CASSED OPENING HEAD DETAIL
Scale: 1 1/2" = 1'-0"



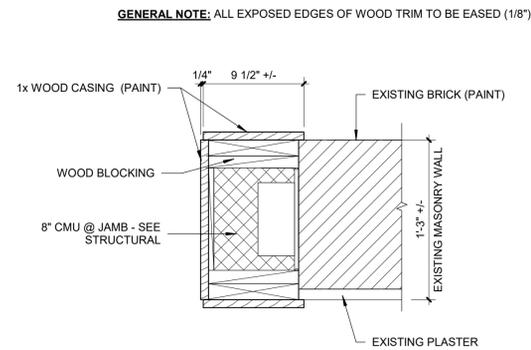
5 WINDOW JAMB DETAIL
Scale: 1 1/2" = 1'-0"

PARTITION TYPE NOTES

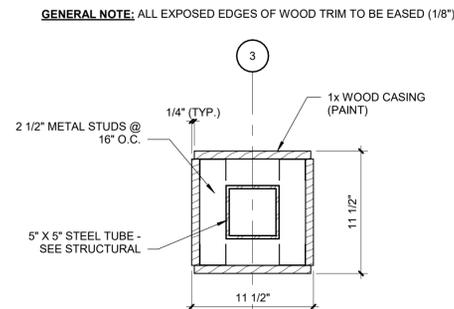
- A. AT ALL FIRE RATED SEPARATIONS, EXTEND GYPSUM BOARD THROUGH ALL CHASES AND WALL INTERSECTIONS TO PROVIDE A CONTINUOUS UNINTERRUPTED LAYER OF 5/8" GYPSUM BOARD ON EACH SIDE OF THE PARTITION AND SEPARATION. SEAL ALL PENETRATIONS WITH APPROVED U.L. LISTED SEALANT AND/OR SEALANT ASSEMBLIES.
- B. AT ALL SMOKE SEPARATIONS, EXTEND GYPSUM BOARD THROUGH ALL CHASES AND WALL INTERSECTIONS TO PROVIDE A CONTINUOUS UNINTERRUPTED LAYER OF 5/8" GYPSUM BOARD ON EACH SIDE OF THE PARTITION AND SEPARATION. SEAL ALL PENETRATIONS WITH APPROVED U.L. LISTED SEALANT AND/OR SEALANT ASSEMBLIES TO LIMIT THE PASSAGE OF SMOKE.
- C. CONTROL JOINTS SHALL BE INSTALLED:
 1. AT ALL CONSTRUCTION CHANGES WITHIN A PLANE OF PARTITION OR CEILING.
 2. AT PARTITION RUNS THAT EXCEED 30'-0" IN LENGTH, CEILING DIMENSIONS THAT EXCEED 50' IN EITHER DIRECTION WITH PERIMETER RELIEF AND 30' WITHOUT.
 3. AT WINGS OF "L", "U" AND "T" SHAPED CEILING AREAS
 4. AT BUILDING EXPANSION OR CONTROL JOINTS.
 WHERE CONTROL JOINTS ARE REQUIRED (SEE DISTANCES ABOVE), THEY SHALL BE INSTALLED AT DOOR - FROM OUTSIDE CORNER OF THE TOP OF DOOR JAMB TO ABOVE CEILING. REFER TO PUBLISHED CONTROL JOINT DETAILS IN GA 600-900 FIRE RESISTANCE DESIGN MANUAL.
- D. CONTRACTOR SHALL PROVIDE ADDITIONAL MATERIALS TO MAINTAIN THE APPROPRIATE FIRE RATING WHERE CONTROL JOINTS ARE LOCATED IN FIRE-RATED PARTITIONS. INSTALLATION SHALL BE PER THE DETAILS SHOWN IN THE LATEST PUBLICATION OF THE USG CONSTRUCTION HANDBOOK, GYPSUM ASSOCIATION PUBLICATION OR UNDERWRITERS LABORATORY FIRE RESISTANCE DIRECTORY AND AS APPROVED BY THE AUTHORITY HAVING JURISDICTION.
- E. AT UL LISTED RATED ASSEMBLIES, THE CONTRACTOR IS TO VERIFY THE GYPSUM BOARD TYPE AND MANUFACTURER BASED ON THE WRITTEN DESCRIPTIONS FOR THE APPROPRIATE UL LISTED ASSEMBLY RATING SPECIFICATIONS FOUND IN THE LATEST EDITION OF THE UNDERWRITERS LABORATORY FIRE RESISTANCE DIRECTORY.
- F. AT THE BASE AND HEAD OF ALL WALLS REQUIRING SOUND ATTENUATION INSULATION, ENSURE THAT THE GYPSUM WALL PANELS ARE NOT OFFSET FROM THE SUBFLOOR OR THE STRUCTURE ABOVE MORE THAN 1/2". IF CONSTRUCTION CONDITIONS REQUIRE THE GYPSUM WALL PANELS TO BE OFFSET MORE THAN 1/2", PROVIDE A CONTINUOUS BEAD OF BACKER ROD AND SEALANT TO PREVENT THE WALL BASE FROM DEFLECTING INTO THE CAVITY.
- G. AT THE BASE OF ALL WALLS NOT REQUIRING SOUND ATTENUATION INSULATION, ENSURE THAT THE GYPSUM BOARD WALL PANELS ARE NOT OFFSET FROM THE SUBFLOOR GREATER THAN 1/2". IF CONSTRUCTION CONDITIONS REQUIRE THE GYPSUM BOARD WALL PANELS TO BE INSTALLED WITH AN OFFSET GREATER THAN 1/2", PROVIDE A CONTINUOUS BEAD OF BACKER ROD AND SEALANT TO PREVENT THE WALL BASE FROM DEFLECTING INTO THE CAVITY.
- H. PROVIDE RED ROSIN PAPER OR SIMILAR MATERIAL BETWEEN DISSIMILAR MATERIALS
- I. PROVIDE INSULATION AND/OR SOUND ATTENUATION INSULATION IN ALL SUBORDINATE (SIMILAR) PARTITIONS UNLESS OTHERWISE NOTED OR SHOWN.
- J. PROVIDE 5/8" FIRE RATED MOISTURE RESISTANT/MOLD RESISTANT GYPSUM BOARD AT ALL LOCATIONS WHERE WATER PRODUCING DEVICES MAY BE PRESENT OR SPLASHED ONTO THE WALL SURFACE (I.E. WATER COOLERS, SINKS, LAVATORIES, HOSE BIBS, ETC.). EXTEND GYPSUM BOARD A MINIMUM OF 4'-0" IN ALL DIRECTIONS FROM CENTER OF DEVICE.
- K. EXTEND FIRE RATED PARTITIONS, BARRIERS AND OTHER SEPARATIONS TO BOTTOM OF ROOF DECK ABOVE AND TO EXTERIOR WALL. EXTEND GYPSUM BOARD TO FURTHEST EXTENT POSSIBLE AND AS APPROVED BY THE AUTHORITY HAVING JURISDICTION.
- L. PROVIDE CONTINUOUS STIFFENER CHANNELS AT 4'-0" MAXIMUM VERTICAL SPACING. TYPICAL. ALSO PROVIDE AT MIDPOINT BETWEEN BOTTOM OF STRUCTURE AND HEAD OF INTERIOR WINDOWS AND DOORS AS WELL AS HINGE MIDPOINT AT DOORS. IF DOOR OPENING IS OVER 4'-0" LONG, PROVIDE STIFFENER CHANNELS AT ALL HINGE POINTS FOR MINIMUM OF 2 STUD SPACES HORIZONTALLY.
- M. AT ALL INTERSECTIONS WITH CEILINGS, PROVIDE METAL STUD FIRE BLOCKING AT NO GREATER THAN 8'-0" APART AND AS REQUIRED BY THE FIRE RATED ASSEMBLY.
- N. PROVIDE TILE BACKER BOARD AT AREAS TO RECEIVE TILE FINISH.



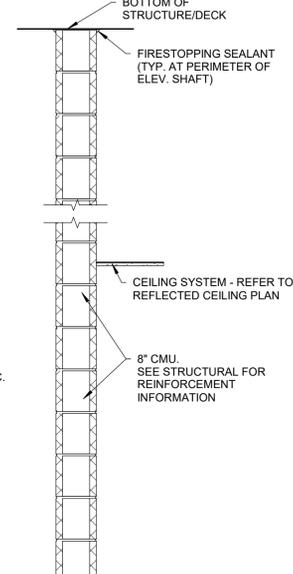
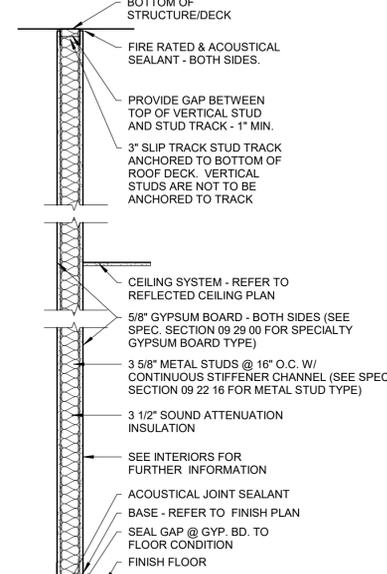
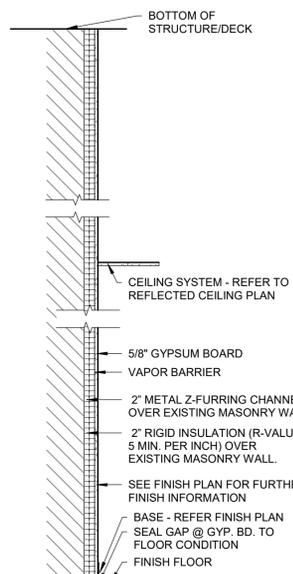
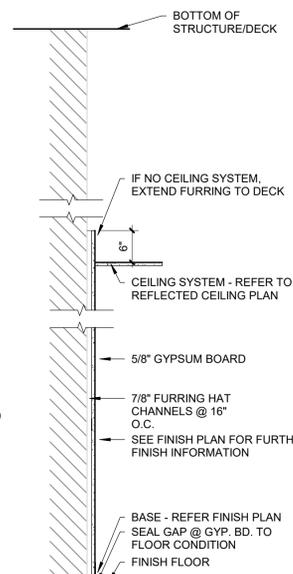
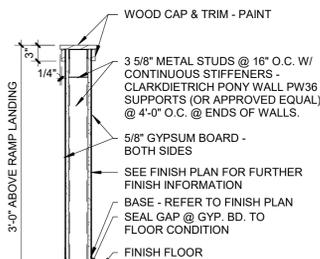
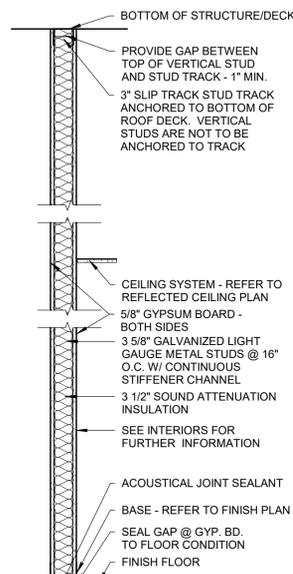
6 WINDOW SILL DETAIL
Scale: 1 1/2" = 1'-0"



2 CASSED OPENING JAMB DETAIL
Scale: 1 1/2" = 1'-0"



3 ENLARGED COLUMN PLAN
Scale: 1 1/2" = 1'-0"



- P1 5/8" GYPSUM BOARD - BOTH SIDES (LEVEL 0 - NO TAPE & JOINT COMPOUND)
- P2 GYPSUM BOARD ONE SIDE ONLY
- P2a 5/8" GYPSUM BOARD - ONE SIDE ONLY (LEVEL 0 - NO TAPE & JOINT COMPOUND)
- P3 6" STUD METAL STUD - BOTTOM TRACK & SUPPORT ANCHORED TO 2X6 BASE TRACK

- P4 WALL FURRING ON EXISTING BRICK
- P4a WALL FURRING ON CMU

- P6 1 HOUR FIRE RATED CONSTRUCTION - UL U423

- P7 1 HOUR FIRE RATED CONSTRUCTION PER 2021 IBC TABLE 721.1(2) SEE STRUCTURAL DRAWINGS FOR CONSTRUCTION

1 PARTITION TYPES
Scale: 3/4" = 1'-0"



Farnsworth GROUP

2211 W. BRADLEY AVENUE
CHAMPAIGN, ILLINOIS 61821
(217) 352-7408 / info@f-w.com

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PROJECT:
THE CITY OF MARSHALL

MARSHALL PUBLIC LIBRARY PHASE II RENOVATIONS

612 ARCHER AVE. MARSHALL, IL 62441

DATE: 11/09/2023

DESIGNED: SB

DRAWN: AG

REVIEWED: LU

SHEET TITLE:

PARTITION TYPES AND DETAILS

SHEET NUMBER:

A7.1

PROJECT NO.: 0230585.00

DOOR SCHEDULE														
NO.	DOOR				DOOR FRAME				HEAD DETAIL NO.	JAMB DETAIL NO.	THRESH DETAIL NO.	LBL	HWDR SET	REMARKS
	WIDTH	HEIGHT	THICK	MAT'L	FINISH	ELEV	MAT'L	FINISH						
1ST FLOOR NORTH														
100-1	3'-0"	7'-0"	1 3/4"	ALUM	PF	FG-M	ALUM	PF	6/A7.1	-	-	-	1.0	1
101-1	3'-0"	7'-0"	1 3/4"	SWC	STN	N	HM	PNT	1	3/A7.1	2/A7.1	1H	2.0	3
101-2	3'-10"	7'-0"	1 3/4"	SWC	PF	SB	STEEL	PF	-	-	-	-	-	4
102-1	3'-0"	7'-0"	1 3/4"	SWC	STN	G	HM	PNT	1	3/A7.1	2/A7.1	-	3.0	-
2ND FLOOR N														
200-1	3'-0"	7'-0"	1 3/4"	SWC	STN	N	HM	PNT	1	3/A7.1	2/A7.2	1H	2.0	3
202-1	3'-0"	7'-0"	1 3/4"	SWC	STN	L	HM	PNT	1	3/A7.1	2/A7.1	-	4.0	2
204-1	3'-0"	7'-0"	1 3/4"	SWC	STN	F	HM	PNT	1	3/A7.1	2/A7.1	-	4.0	-
205-1	3'-0"	7'-0"	1 3/4"	SWC	STN	FG-M	HM	PNT	4	3/A7.1	2/A7.1	-	5.0	-
206-1	3'-0"	7'-0"	1 3/4"	SWC	STN	F	HM	PNT	1	3/A7.1	2/A7.1	-	4.0	-
206-2	3'-0"	7'-0"	1 3/4"	SWC	STN	F	HM	PNT	1	3/A7.1	2/A7.1	-	6.0	-
2ND FLOOR SOUTH														
208-1	2'-6"	7'-0"	1 3/4"	SWC	STN	F	HM	PNT	1	3/A7.1	2/A7.1	-	9.0	-
209-1	6'-0"	7'-0"	1 3/4"	SWC	STN	G	HM	PNT	1	3/A7.1	2/A7.1	-	7.0	-
209-2	3'-0"	7'-0"	1 3/4"	SWC	STN	F	HM	PNT	1	3/A7.1	2/A7.1	-	4.0	-
209-3	3'-0"	7'-0"	1 3/4"	SWC	STN	G	HM	PNT	1	3/A7.1	2/A7.1	-	8.0	-
210-1	3'-0"	7'-0"	1 3/4"	SWC	STN	F	HM	PNT	1	3/A7.1	2/A7.1	-	4.0	-
211-1	3'-0"	7'-0"	1 3/4"	SWC	STN	F	HM	PNT	1	3/A7.1	2/A7.1	-	9.0	-
212-1	3'-0"	7'-0"	1 3/4"	SWC	STN	G	HM	PNT	1	3/A7.1	2/A7.1	-	9.0	-
213-1	3'-0"	7'-0"	1 3/4"	SWC	STN	L	HM	PNT	1	3/A7.1	2/A7.1	-	10.0	2
214-1	3'-0"	7'-0"	1 3/4"	SWC	STN	L	HM	PNT	1	3/A7.1	2/A7.1	-	10.0	2
215-1	3'-0"	7'-0"	1 3/4"	SWC	STN	F	HM	PNT	1	3/A7.1	2/A7.1	-	10.0	2
216-1	3'-0"	7'-0"	1 3/4"	SWC	STN	F	HM	PNT	1	3/A7.1	2/A7.1	-	9.0	-
217-1	3'-0"	7'-0"	1 3/4"	SWC	STN	N	HM	PNT	1	3/A7.1	2/A7.1	-	8.0	-

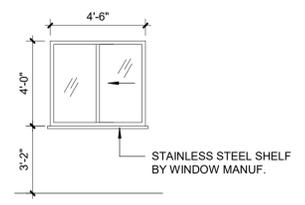
AL= ALUMINUM
 ALCW= ALUMINUM CLAD WOOD
 EXIST= EXISTING
 FRP= FIBER REINFORCED PLASTIC
 HM= HOLLOW METAL
 IHM= INSULATED HOLLOW METAL

OHD= OVERHEAD DOOR
 PF= PREFINISHED
 PNT= PAINT
 SCW= SOLID CORE WOOD
 STN= STAIN
 WD= WOOD

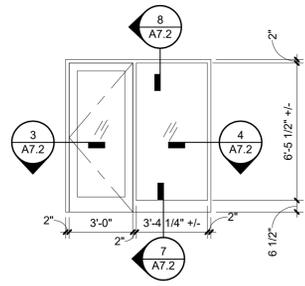
DOOR SCHEDULE REMARKS:

- EXISTING OPENING - FIELD VERIFY
- METAL LOUVER IN DOOR (FINISH TO MATCH EXISTING LOUVERS)
- DOOR TO BE LOCKABLE FROM SECURE SIDE OF DOOR
- SLIDING BARN DOOR AND OVERHEAD TRACK ASSEMBLY, MANUF.: RUSTICA.COM.
- 4 PANEL BARN DOOR (WOOD SPECIES - RIFT CUT WHITE OAK, STAIN - JACOBEN) DOOR HARDWARE - STAG BARN DOOR HARDWARE (FLAT BLACK FINISH), ALL HARDWARE BY DOOR MANUFACTURER, INCLUDE DOOR LOCK
- SEE MISCELLANEOUS FINISH SCHEDULE (10.1) FOR FINISH SELECTIONS.

G.C. TO COORDINATE DOOR HARDWARE WITH FOLLOWING LOCKSMITH:
 RAY'S LOCK SHOP
 622 N MAIN ST., PARIS, IL 61944
 PHONE: 217 465-4572



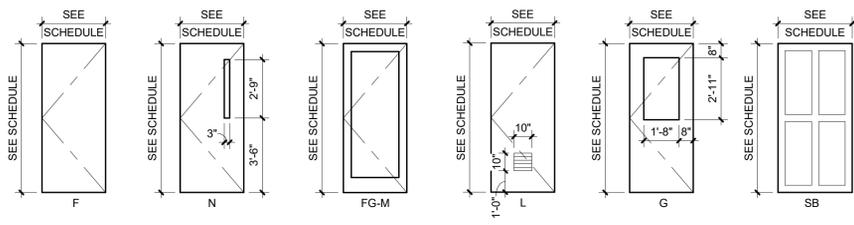
11 ALUM. SLIDING WINDOW
 Scale: 1/4" = 1'-0"



NOTES:

- ALL INTERIOR GLASS TO BE 1/4" CLEAR TEMPERED GLASS UNLESS NOTED OTHERWISE.
- ALL GLASS IN DOORS, SIDELIGHTS SHALL BE TEMPERED.
- ALL EXTERIOR GLASS SHALL BE INSULATED.
- SIZES SHOWN ARE NOMINAL - CONTRACTOR SHALL DETERMINE CLEARANCES REQUIRED FOR JOINTS, ETC.

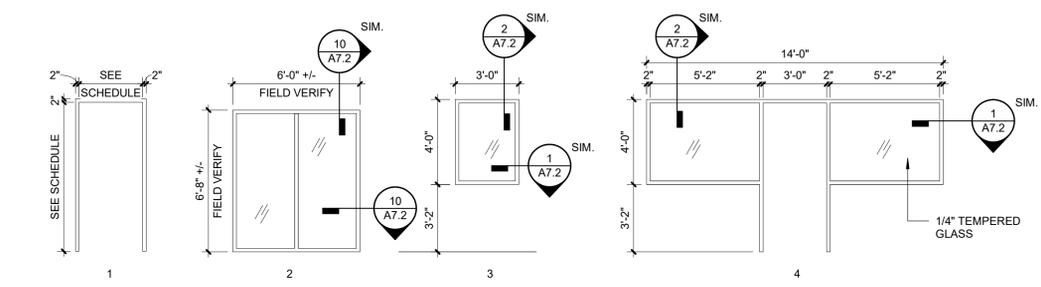
6 ALUMINUM FRAMES ELEVATIONS
 Scale: 1/4" = 1'-0"



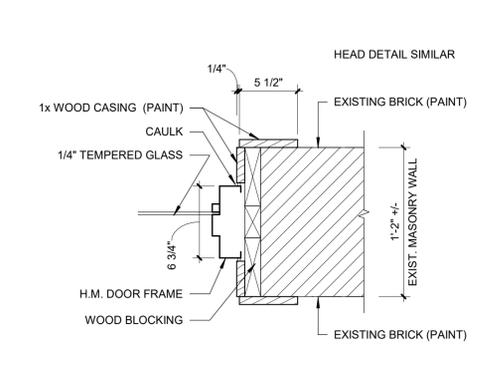
NOTES:

- PROVIDE FIRE-RATED GLASS AT FIRE RATED CONDITIONS
- ALL EXTERIOR GLASS SHALL BE INSULATED
- ALL GLASS MUST BE TEMPERED

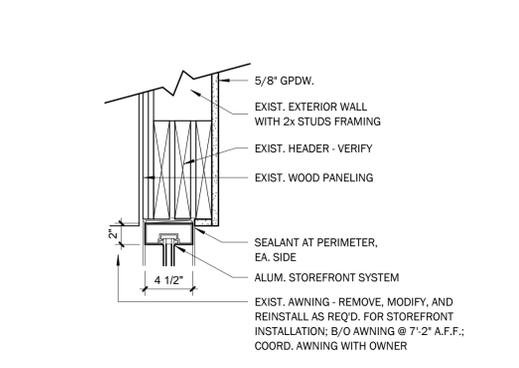
5 DOOR ELEVATIONS
 Scale: 1/4" = 1'-0"



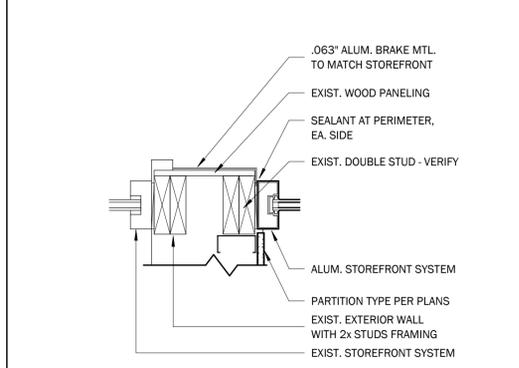
9 HM FRAME ELEVATIONS
 Scale: 1/4" = 1'-0"



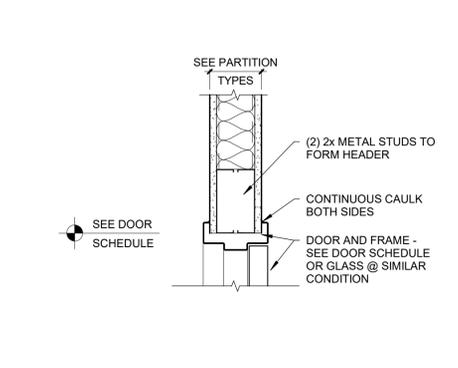
10 CASED OPENING JAMB DETAIL
 Scale: 1 1/2" = 1'-0"



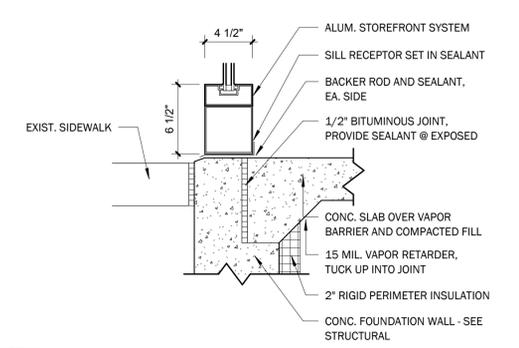
8 STOREFRONT - HEAD DETAIL
 Scale: 1 1/2" = 1'-0"



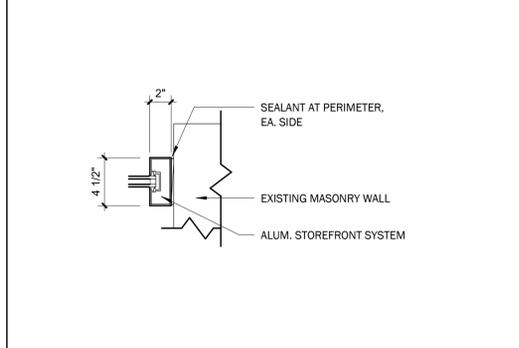
4 STOREFRONT - JAMB DETAIL
 Scale: 1 1/2" = 1'-0"



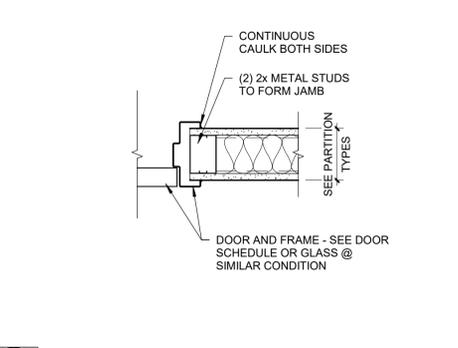
2 HEAD DETAIL @ METAL STUD
 Scale: 1 1/2" = 1'-0"



7 STOREFRONT - SILL DETAIL
 Scale: 1 1/2" = 1'-0"



3 STOREFRONT - JAMB DETAIL
 Scale: 1 1/2" = 1'-0"



1 JAMB DETAIL @ METAL STUD
 Scale: 1 1/2" = 1'-0"

DOOR HARDWARE SETS

Set 1.0 Door 100-1	1 CONTINUOUS HINGE 1 RIM EXIT DEVICE 1 CLOSER 1 PULL 1 WEATHERSTRIPPING 1 THRESHOLD	HD1100A 33A-LN 4050	NATIONAL GUARD PRODUCTS VON DUPRIN LCN
Set 2.0 Door 101-1, 200-1	1 CONTINUOUS HINGE 1 RIM EXIT DEVICE 1 CLOSER 1 KICKPLATE 1 GASKET	HD2400A 4050 8400 8" 5050	NATIONAL GUARD PRODUCTS VON DUPRIN LCN IVES NATIONAL GUARD PRODUCTS
Set 3.0 Door 102-1	3 HINGE 1 CYLINDRICAL LOCK 1 CLOSER 1 KICKPLATE 1 DOOR STOP 3 SILENCER	BB81 B581 CP6 Q 4050 8400 8" WS407CCV SR64-GRY	PBB INC. FALCON LCN IVES IVES IVES
Set 4.0 Door 202-1, 204-1, 206-1, 209-2, 210-1	3 HINGE 1 CYLINDRICAL LOCK 1 CLOSER 1 KICKPLATE 1 DOOR STOP 3 SILENCER	BB81 B581 CP6 Q 4050 8400 8" WS407CCV SR64-GRY	PBB INC. FALCON LCN IVES IVES IVES
Set 5.0 Door 205-1	3 HINGE 1 CYLINDRICAL LOCK 1 CLOSER 1 KICKPLATE 3 SILENCER	BB81 B581 CP6 Q 4050 8400 8" SR64-GRY	PBB INC. FALCON LCN IVES IVES
Set 6.0 Door 206-2, 215-1	3 HINGE 1 CYLINDRICAL LOCK 1 CLOSER 1 KICKPLATE 3 SILENCER	BB81 B581 CP6 Q 4050 8400 8" SR64-GRY	PBB INC. FALCON LCN IVES IVES
Set 7.0 Door 209-1	2 CONTINUOUS HINGE 2 RIM EXIT DEVICE 1 REMOVABLE MULLION 2 CLOSER 2 KICKPLATE 1 GASKET	HD2400A 4050 8400 8" 137SA	NATIONAL GUARD PRODUCTS VON DUPRIN VON DUPRIN LCN IVES IVES NATIONAL GUARD PRODUCTS
Set 8.0 Door 209-3, 217-1	3 HINGE 1 CYLINDRICAL LOCK 1 CLOSER 1 KICKPLATE 1 DOOR STOP 3 SILENCER	BB81 B101S Q 4050 8400 8" WS407CCV SR64-GRY	PBB INC. FALCON LCN IVES IVES IVES
Set 9.0 Door 211-1, 212-1, 216-1	3 HINGE 1 CYLINDRICAL LOCK 1 CLOSER 1 KICKPLATE 1 DOOR STOP 3 SILENCER	BB81 B511 CP6 Q 4050 8400 8" WS407CCV SR64-GRY	PBB INC. FALCON LCN IVES IVES IVES
Set 10.0 Door 213-1, 214-1	3 HINGE 1 PUSH/PULL 1 CLOSER 1 KICKPLATE 1 DOOR STOP 3 SILENCER	BB81 8200 4050 8400 8" WS407CCV SR64-GRY	PBB INC. FALCON LCN IVES IVES IVES



Farnsworth GROUP
 2211 W. BRADLEY AVENUE
 CHAMPAIGN, ILLINOIS 61821
 (217) 352-7408 / info@f-w.com

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ISSUE: # DATE: DESCRIPTION:

Permit / Bid Set

PROJECT:
 THE CITY OF MARSHALL

MARSHALL PUBLIC LIBRARY PHASE II RENOVATIONS

612 ARCHER AVE. MARSHALL, IL 62441

DATE: 11/09/2023
 DESIGNED: SB
 DRAWN: AG
 REVIEWED: LU

SHEET TITLE:

DOOR SCHEDULE, ELEVATIONS & DETAILS

SHEET NUMBER:

A7.2

PROJECT NO.: 0230585.00



Farnsworth GROUP

2211 W. BRADLEY AVENUE
CHAMPAIGN, ILLINOIS 61821
(217) 352-7408 / info@f-w.com

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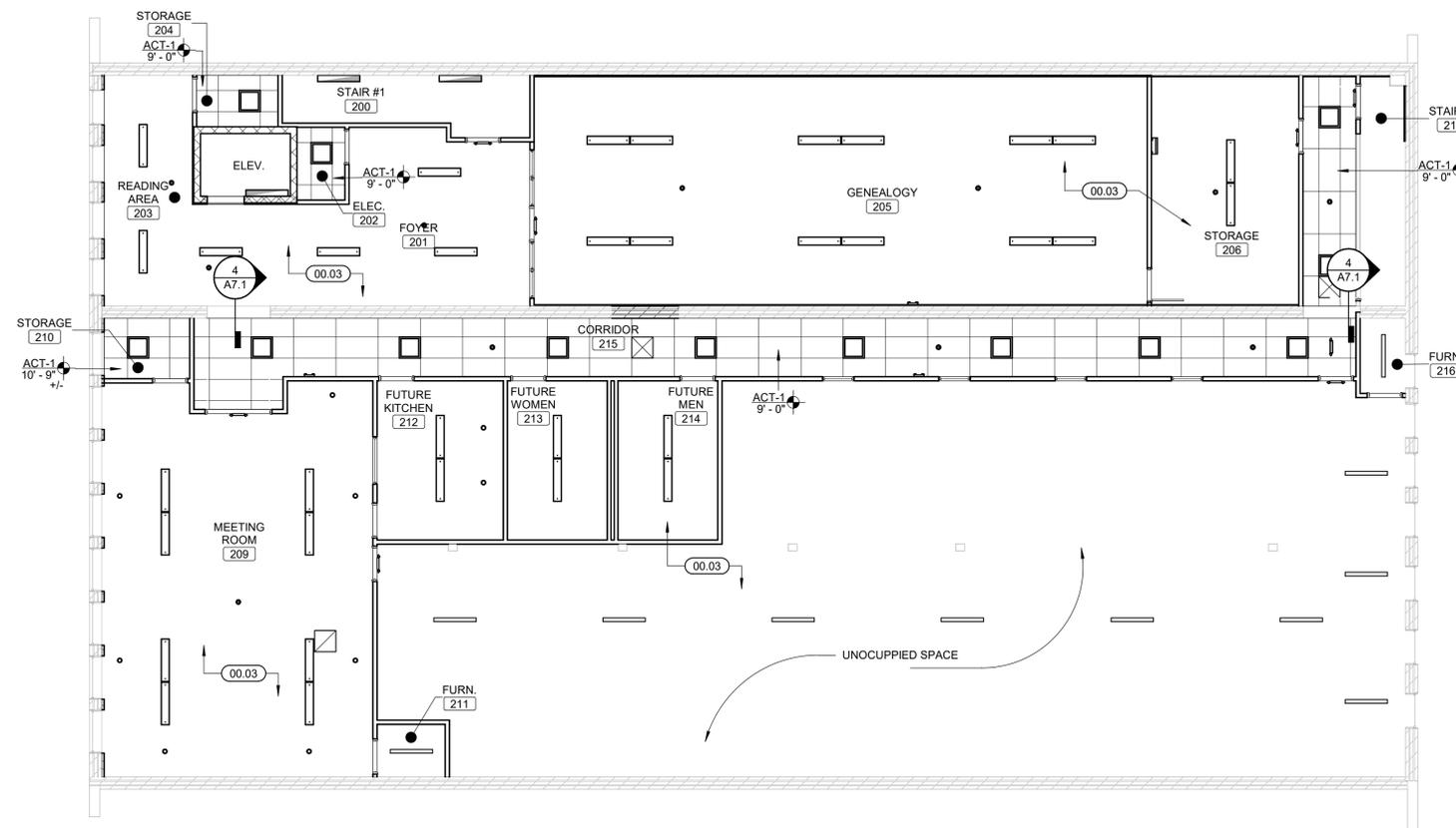
ISSUE # DATE: DESCRIPTION:

REFLECTED CEILING PLAN GENERAL NOTES

- A. CEILING MOUNTED LIGHT FIXTURES AND DIFFUSERS ARE SHOWN FOR COORDINATION PURPOSES. EXIT SIGNAGE, SPRINKLER HEADS, SMOKE DETECTORS AND OTHER DEVICES ARE NOT SHOWN. ALL CEILING MOUNTED DEVICES SHALL BE CENTERED IN THE CEILING PANEL IN WHICH THEY OCCUR. COORDINATE WITH MECHANICAL AND ELECTRICAL DRAWINGS FOR DEVICES NOT SHOWN. CONTRACTOR TO REVIEW CEILING LAYOUT AND NOTIFY DESIGN PROFESSIONAL OF ANY CONFLICTS BEFORE PROCEEDING WITH CONSTRUCTION.
- B. PAINT CUT EDGES OF ACOUSTIC CEILING TILES TO MATCH CEILING TILE WHERE EXPOSED EDGES ARE VISIBLE.
- C. CONTROL JOINTS SHALL BE INSTALLED; AT ALL CONSTRUCTION CHANGES WITHIN PLANE OF CEILING WHERE CEILING DIMENSIONS EXCEED 50'-0" IN EITHER DIRECTION WITH PERIMETER RELIEF AND 30'-0" WITHOUT. AT WINGS OF "L" "U" AND "T" SHAPED CEILING AREAS, AND AT BUILDING EXPANSION OR CONTROL JOINTS. REFER TO PUBLISHED CONTROL JOINT DETAILS.
- D. PAINT ALL GYPSUM CEILINGS. COLOR SHALL BE P-1, UNLESS OTHERWISE NOTED OR SHOWN.

REFLECTED CEILING PLAN LEGEND

-  GYP BOARD CEILING (PAINT)
-  2X4 ACOUSTIC CEILING TILE

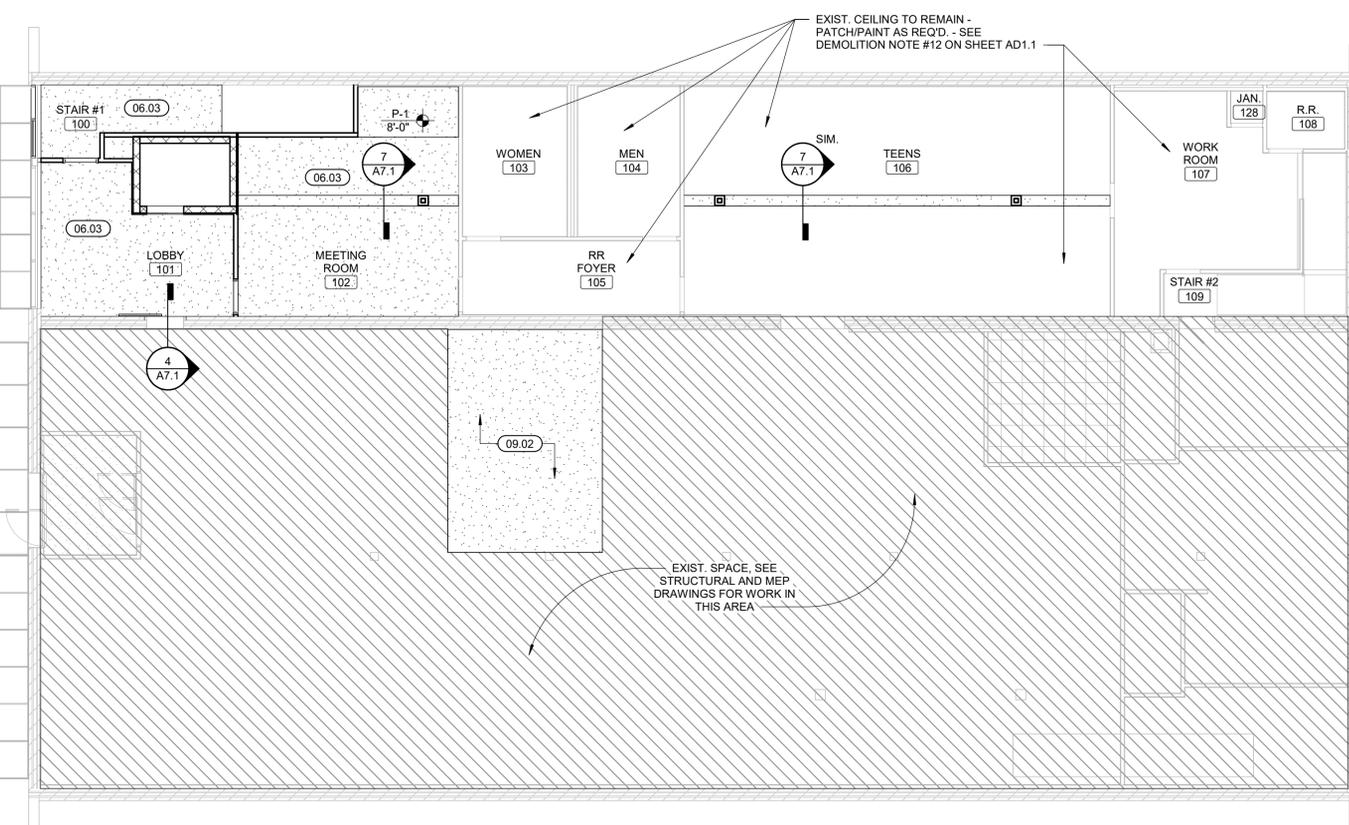


2 SECOND FLOOR REFLECTED CEILING PLAN
Scale: 1/8" = 1'-0"



FLOOR PLAN KEYNOTES

DIVISION 00	
00.01	AREA OF RESCUE ASSISTANCE (30'x48') - PROVIDE TWO-WAY COMMUNICATION (VISIBLE AND AUDIBLE SIGNALS) BETWEEN AREA OF RESCUE ASSISTANCE AND PRIMARY ENTRY. PROVIDE ILLUMINATED SIGN @ AREA OF RESCUE ASSISTANCE WHICH STATES "AREA OF RESCUE ASSISTANCE" AND DISPLAYS THE INTERNATIONAL SYMBOL OF ACCESSIBILITY
00.02	FUTURE PLUMBING FIXTURES, CABINETS AND APPLIANCES - SEE PLUMBING FOR ROUGH-IN WORK
00.03	EXISTING EXPOSED WOOD ROOF STRUCTURE (NO NEW PAINT OR OTHER FINISH)
DIVISION 03	
03.01 RAMP/LANDING - CONCRETE	
DIVISION 05	
05.01	STEEL LADDER TO ROOF HATCH ABOVE; ROOF HATCH BY OTHERS (N.I.C.) - COORDINATE WITH OWNER. SIDERAILS: CONTINUOUS, 3/8-BY-2-1/2-INCH STEEL FLAT BARS, WITH EASED EDGES, SPACE SIDERAILS 20 INCHES APART. RUNGS: 1-INCH DIA. STEEL ROD SPACED 12 INCHES ON CENTER, SPACE RUNGS 7 INCHES FROM WALL SURFACE WITH STEEL BRACKETS. FIT RUNGS IN CENTERLINE OF SIDERAILS; PLUG-WELD AND GRIND SMOOTH ON OUTER RAIL FACES. PROVIDE NONSLIP SURFACES ON TOP OF EACH RUNG. PRIME LADDERS, INCLUDING BRACKETS AND FASTENERS, AND APPLY FINISH PAINT.
DIVISION 06	
06.01	5/8" (MIN.) WOOD STRUCTURAL PANELS OVER EXISTING 1x WOOD FLOORBOARDS (TYPICAL AT "NORTH" BUILDING; SEE NOTE 06.03 FOR FIRE-RESISTANCE RATED CEILING/FLOOR ASSEMBLY)
06.02	RAMP/LANDING - 3/4" WOOD STRUCTURAL PANELS OVER 2x WOOD FRAMING @ 16" O.C.
06.03	FIRE-RESISTANCE RATED CEILING/FLOOR ASSEMBLY (UL# L501 - 1 HOUR RATING SYSTEM) - CEILING/FLOOR ABOVE STAIR#1 100, LOBBY 101, AND MEETING ROOM 102. INSTALL 5/8" (MIN.) WOOD STRUCTURAL PANELS (MIN. GRADE "UNDERLAYMENT" OR "SINGLE-FLOOR" - FACE GRAIN OF PL WOOD OR STRENGTH AXIS OF PANELS TO BE PERPENDICULAR TO JOISTS WITH JOINTS STAGGERED) OVER EXISTING 1x WOOD FLOORBOARDS. INSTALL VAPOR BARRIER (NOMINAL 0.010" COMMERCIAL ROSIN-SIZED BUILDING PAPER) BETWEEN EXISTING BOARDS AND WOOD STRUCTURAL PANELS. INSTALL 5/8" THICK, 48" WIDE GYPSUM BOARD (INSTALL WITH LONG DIMENSION PERPENDICULAR TO JOISTS; SECURE GYPSUM BOARD WITH 1-7/8" LONG, 6D CEMENT COATED NAILS SPACED 6" O.C.; SEE SPECIFICATION SECTION 09 29 00 FOR SPECIALTY GYPSUM BOARD TYPE) TO UNDERSIDE OF EXISTING WOOD FLOOR JOISTS
06.04	3/4" TONGUE AND GROOVED WOOD STRUCTURAL PANELS (GLUED AND NAILED @ 8" O.C.) OVER EXISTING SISTERED FLOOR JOISTS - SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION. INSTALL LOOSE-FILL BATT INSULATION BETWEEN FLOOR JOISTS TO IMPROVE ACOUSTIC PROPERTIES OF THE FLOOR (TYPICAL AT "SOUTH" BUILDING)
DIVISION 08	
08.01	ALUMINUM STOREFRONT AND ENTRANCE DOOR SYSTEM
08.02	SLIDING BARN DOOR AND OVERHEAD TRACK ASSEMBLY - SEE DOOR SCHEDULE
08.03	HOLLOW METAL FRAME AND GLASS BORROWED LITE IN EXISTING MASONRY OPENING
08.04	ALUM. SLIDING SERVICE WINDOW; BASIS OF DESIGN: C.R. LAURENCE CO., INC. (800) 421-6144, DIV 1800 WITH SELF LATCHING HANDLE, HALF TRACK, CLEAR ANODIZED FINISH, 1/2" TEMPERED GLASS, KEYED LOCK. PROVIDE STAINLESS STEEL SHELF/SILL. PRODUCT AS DESCRIBED OR EQUAL. SEE SHEET A7.2
DIVISION 09	
09.01	INSTALL SOUNDPROOFING UNDERLAYMENT UNDER NEW FLOORING (TYPICAL AT SECOND FLOOR OF "NORTH" BUILDING; SEE INTERIOR SHEETS FOR ADDITIONAL INFORMATION)
09.02	GYPSUM DRYWALL SOFFIT TO CONCEAL NEW SANITARY PIPING BELOW SECOND FLOOR. INSTALL SOFFIT CONSTRUCTION AS CLOSE TO NEW PIPING AS FEASIBLE. COORDINATE CLEARANCES WITH PLUMBING
DIVISION 22	
22.01	MOP SINK - SEE PLUMBING



1 FIRST FLOOR REFLECTED CEILING PLAN
Scale: 1/8" = 1'-0"



Permit / Bid Set

PROJECT:
THE CITY OF MARSHALL

MARSHALL PUBLIC LIBRARY PHASE II RENOVATIONS

612 ARCHER AVE. MARSHALL, IL 62441

DATE: 11/09/2023

DESIGNED: SB

DRAWN: AG

REVIEWED: LU

FIRST & SECOND FLOOR REFLECTED CEILING PLANS

SHEET NUMBER:

A9.1

PROJECT NO.: 0230585.00

CEILING FINISH SCHEDULE									
TAG	MANUFACTURER	PRODUCT LINE	SIZE	COLOR	FINISH	SUPPLIER / INSTALLER	NOTES		
ACT-1	ARMSTRONG COMMERCIAL	TILE: CIRRUS #539, BEVELED TEGULAR GRID: 9'16" SUPRAFINE XL GRID	24" x 48"	TILE: WHITE	-	CFCI			
P-1	SHERWIN WILLIAMS	SEE SPECIFICATIONS	-	SW 7006 EXTRA WHITE	FLAT	CFCI	ALL GYPSUM CEILINGS, WHITE		

WALL FINISH SCHEDULE									
TAG	MANUFACTURER	PRODUCT LINE	SIZE	COLOR	FINISH	GROUT		SUPPLIER / INSTALLER	NOTES
						TYPE	COLOR		
P-2	SHERWIN WILLIAMS	SEE SPECIFICATIONS	-	CUSTOM, MATCH EXISTING WALL PAINT ON FIRST FLOOR	EGGSHELL	-	-	CFCI	FIELD WALL PAINT, GYP. WALLS
P-3	SHERWIN WILLIAMS	SEE SPECIFICATIONS	-	CUSTOM, MATCH EXISTING WALL PAINT ON FIRST FLOOR	SEMI-GLOSS	-	-	CFCI	FIELD WALL PAINT, BRICK WALLS
WP-2	C/S GROUP	ACROVYN SOLID COLORS	0.040" T	WHITE 949	NA	-	-	CFCI	WALL PROTECTION AT MOP SINK

WALL BASE FINISH SCHEDULE									
TAG	MANUFACTURER	PRODUCT LINE	SIZE	COLOR	FINISH	GROUT		SUPPLIER / INSTALLER	NOTES
						TYPE	COLOR		
RB-1	TARKETT	RUBBER COVE BASE	4" TALL	BURNED UMBER 63	-	-	-	CFCI	
WB-1		SEE FINISH DETAILS (410.1)	4" x 34" T	PAINT COLOR: SHERWIN WILLIAMS SW 7069, IRON ORE	SEMI-GLOSS	-	-	CFCI	PAINTED WOOD WALL BASE

FLOOR FINISH SCHEDULE									
TAG	MANUFACTURER	PRODUCT LINE	SIZE	COLOR	FINISH	GROUT		SUPPLIER / INSTALLER	NOTES
						TYPE	COLOR		
CPT-1	PATCRAFT	COLLECTION: MID CENTURY POP STYLE: COLOR BLOCK 10382	24" x 24"	CENTURY 00320	-	-	-	CFCI	FIRST FLOOR CARPET, INSTALLATION: 1/4 TURN RANDOM
CPT-2	PATCRAFT	COLLECTION: MID CENTURY POP STYLE: COLOR BLOCK 10382	24" x 24"	DOO WOP 00770	-	-	-	CFCI	SECOND FLOOR CARPET, INSTALLATION: 1/4 TURN RANDOM
LVT-1	PATCRAFT	COLLECTION: CROSSOVER STYLE: CROSSOVER LL 1439V	7" x 48"	NATURE-V2 00710	-	-	-	CFCI	FIELD LVT, INSTALLATION: HORIZONTAL BRICK
LVT-2	INTERFACE	BRUSHED LINES	25CM x 1M	KOHL AO1606	-	-	-	CFCI	ACCENT LVT, INSTALLATION: MONOLITHIC
RBU-1	ACOUSTICAL SOLUTIONS	ISO-STEP SOUNDPROOFING UNDERLAYMENT	5MM THICK	NA	NA	-	-	CFCI	SECOND FLOOR SOUND PROOFING UNDERLAYMENT
RUB-1	TARKETT	TREAD: JOHNSONITE ANGLE FIT RUBBER STAIR TREADS WITH GRIT TAPE	-	TREAD: RNRD 63 BURNED UMBER AND TAN GRIT TAPE RISER:RR 63 7 X 5	TREAD: RAISED ROUND	-	-	CFCI	STAIR RISERS AND TREADS
RUB-2	TARKETT	JOHNSONITE SOLID COLOR RUBBER	24" x 24"	63 BURNED UMBER	HRTS HAMMERED	-	-	CFCI	STAIR LANDINGS
TR-1	TARKETT	JOHNSONITE SLIM LINE TRANSITIONS, SLT-63-A	COORDINATE WITH LVT & CARPET THICKNESS	63 BURNED UMBER	NA	-	-	CFCI	SEE INTERIOR DETAIL 1/10.1 FOR ADDITIONAL INFORMATION
WO-1	PATCRAFT	COLLECTION: BEYOND THE DOOR STYLE: PASEO 10316	24" x 24"	OBSIDIAN 00595	-	-	-	CFCI	WALK-OFF CARPET, INSTALLATION: 1/4 TURN RANDOM

MISCELLANEOUS FINISH SCHEDULE									
TAG	MANUFACTURER	PRODUCT LINE	SIZE	COLOR	FINISH	SUPPLIER / INSTALLER	NOTES		
P-4	SHERWIN WILLIAMS	SEE SPECIFICATIONS	-	SW 7069 IRON ORE	SEMI-GLOSS	CFCI	ALL INTERIOR WINDOW FRAMES/INTERIOR WOOD DOOR FRAMES AND EXTERIOR METAL DOOR PAINT		
P-5	SHERWIN WILLIAMS	SEE SPECIFICATIONS	-	PAINT: MATCH EXIST. FIELD PAINT ON FIRST FLOOR	FLAT	CFCI	ALL EXPOSED DUCTWORK, PIPING & CONDUITS		
P-6	SHERWIN WILLIAMS	SEE SPECIFICATIONS	-	SW 7069 IRON ORE	SEMI-GLOSS	CFCI	WOOD HANDRAILS AND WOOD STAIR TRIM BOARD		
STN-1		STAIN	-	MATCH EXIST. DOOR STAIN ON FIRST FLOOR	-	CFCI	ALL NEW INTERIOR DOORS		

PROJECT GENERAL FINISH NOTES

- DRAWINGS & SPECIFICATIONS ARE COMPLEMENTARY COMPONENTS OF THE CONTRACT DOCUMENTS. REVIEW ALL DRAWINGS AND SPECIFICATIONS FOR THE COMPLETE SCOPE OF WORK. NOTIFY ARCHITECT IMMEDIATELY FOR CLARIFICATION IF INCONSISTENCIES, CONTRADICTIONS OR OMISSIONS ARE DISCOVERED.
- DO NOT SCALE DRAWINGS. IF DIMENSIONAL INFORMATION IS REQUIRED AND NOT FOUND, NOTIFY ARCHITECT IMMEDIATELY FOR CLARIFICATION.
- UNO ALL DIMENSIONS ARE TO COLUMN CENTERLINES OR FACE OF FINISHED WALLS OR SURFACES.
- ALL CONTRACTORS TO FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO WORK.
- BASIS-OF-DESIGN PRODUCT: WHERE SPECIFICATIONS OR DRAWINGS NAME A PRODUCT AND MANUFACTURER, PROVIDE THE SPECIFIED PRODUCT / MANUFACTURER OR SUBMIT AN ALTERNATE REQUEST AS OUTLINED IN PROJECT SPECIFICATIONS. ALTERNATE PRODUCTS TO RESEMBLE BASIS-OF-DESIGN PRODUCT IN APPEARANCE, SIZE, PROFILE, DIMENSIONS, COLOR AND OTHER CHARACTERISTICS.
- REFER TO INTERIORS GENERAL INFORMATION SHEET (I0.1) FOR FINISH SYMBOLS AND ABBREVIATIONS.
- REFER TO FINISH PLANS, RCP, FINISH SCHEDULE AND DETAILS FOR FINISH INFORMATION AND LOCATION. REFER TO ARCHITECTURAL ELEVATIONS FOR ADDITIONAL FINISH INFORMATION OR WHERE MULTIPLE FINISHES ARE INDICATED ON PLAN FOR THE SAME LOCATION.
- REFER TO GENERAL INFORMATION SHEET (G1.0) FOR STANDARD MOUNTING HEIGHTS.
- NOTES COLUMN ON PRODUCT FINISH SCHEDULE INDICATES GENERAL COMMENTS ONLY. SEE INTERIOR FINISH PLANS AND SPECIFICATIONS FOR LOCATIONS AND DETAILS.
- UNO DISSIMILAR FLOOR MATERIALS SHALL MEET UNDER CENTER OF DOOR LEAF WHEN IN CLOSED POSITION.
- ALL FINISHES OF SAME TYPE SHALL BE ORDERED IN TIMELY MANNER SO AS TO ADHERE TO PROJECT SCHEDULE. ALL FINISHES OF SAME TYPE SHALL BE ORDERED FROM ONLY ONE (1) DYE LOT. A SAMPLE FROM THE SAME DYE LOT TO BE SUBMITTED TO ARCHITECT FOR APPROVAL. WHERE MORE THAN ONE DYE LOT IS REQUIRED, NOTIFY ARCHITECT IMMEDIATELY AND SUBMIT SECOND VERIFICATION SAMPLE FROM OTHER DYE LOT FOR APPROVAL.
- UNO ALL LIGHT SWITCH AND OUTLET COVER PLATES TO BE WHITE.
- UNO ALL MECHANICAL DIFFUSER/AIR GRILLES AND ELECTRICAL PANELS TO BE PAINTED TO MATCH ADJACENT WALL FINISH.
- UNO ALL WOOD SHALL BE OF SAME SPECIES AND SAME CUT OF WOOD. ALL HARDWOOD TO BE PAINT GRADE PINE.
- UNO PAINT ALL STEEL DOORS, DOOR FRAMES, INTERIOR BORROW LITE FRAMES, LINTELS AND OTHER EXPOSED METAL ITEMS.
- EXISTING CONDITION INFORMATION SHOWN WITHIN THE PROJECT AREA IS BASED ON FIELD OBSERVATION AND EXISTING DRAWING DOCUMENTATION. ALL EXISTING CONDITION INFORMATION SHOWN OUTSIDE THE PROJECT AREA IS PROVIDED FOR REFERENCE ONLY AND HAS NOT BEEN FIELD VERIFIED. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING ANY NEW WORK AND SHALL BRING ANY DISCREPANCIES TO THE ATTENTION OF THE DESIGN PROFESSIONAL PRIOR TO DEMOLITION AND CONSTRUCTION.

SYMBOLS LEGEND

NOTE: NOT ALL SYMBOLS ARE USED IN CONSTRUCTION DOCUMENTS

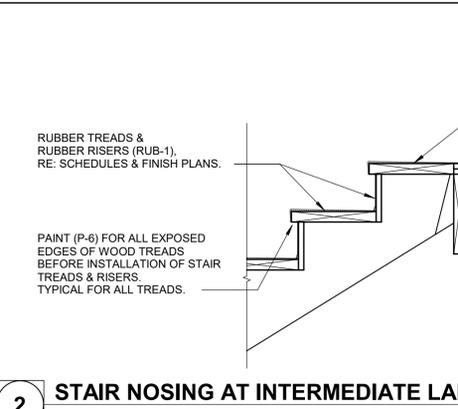
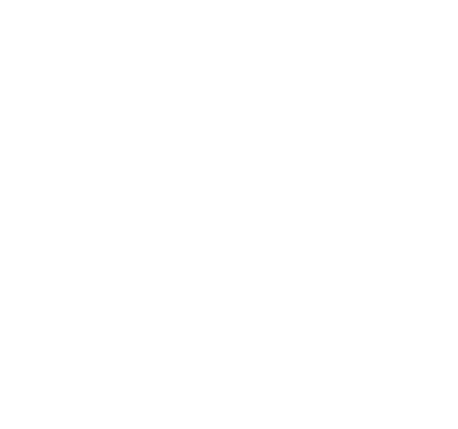
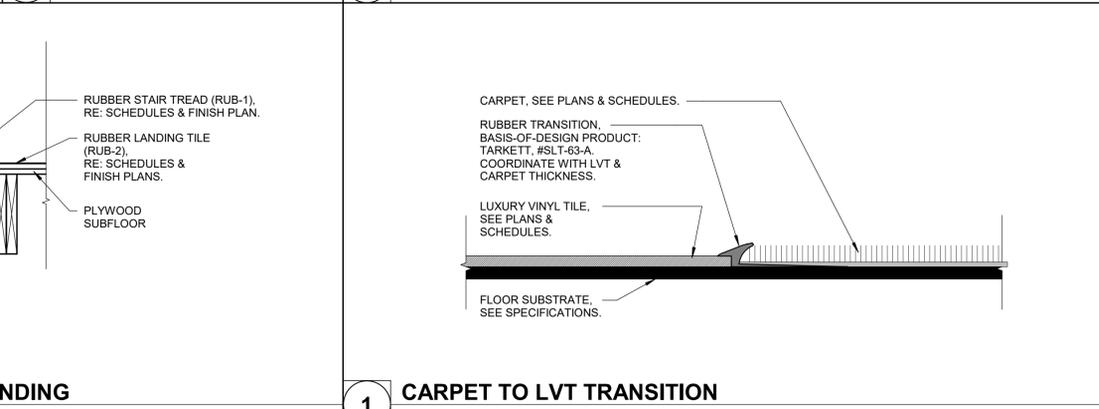
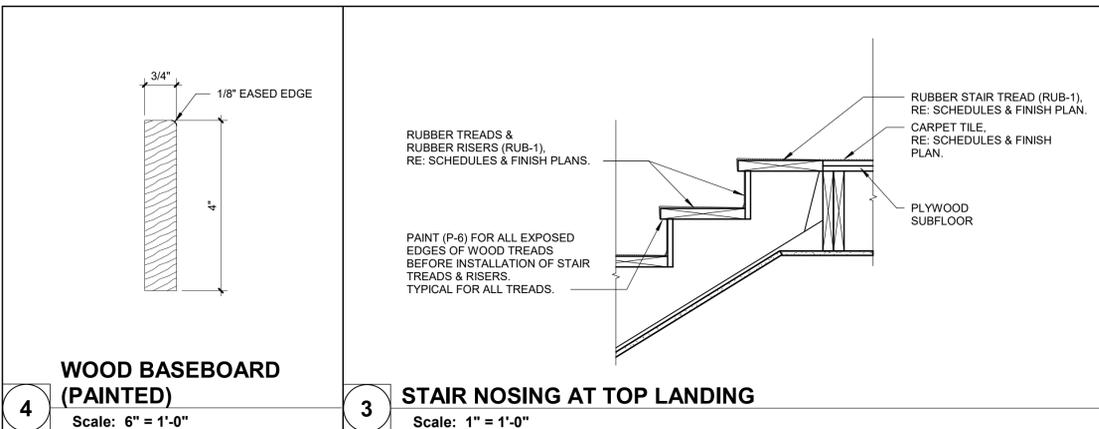
	CEILING FINISH
	WALL FINISH
	ACCENT WALL FINISH
	WALL BASE FINISH
	FLOOR FINISH
	CASEWORK COUNTER/TRANSITION TOP FINISH
	CASEWORK BASE AND UPPER CABINET FINISH
	MISCELLANEOUS FINISH
	SIGNAGE / ARTWORK FINISH
	WINDOW TREATMENT FINISH
	CORNER GUARD
	DRAPERY / CUBICLE CURTAIN
	ROLLER SHADE
	VALANCE / CORNICIE
	FINISH KEYNOTE
	FINISH MATERIAL TRANSITION
	ALIGN FINISH WITH ADJACENT ITEM
	FINISH PATTERN/LINEAR DIRECTION
	ROOM DESIGNATION
	BREAK LINE
	REVISION NOTE

ABBREVIATIONS

AB	ALUMINUM WALL BASE	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
ACB	ACOUSTICAL CEILING BAFFLE	OFOI	OWNER FURNISHED, INSTALLED BY OTHERS
ACC	ACOUSTICAL CEILING CLOUD	P	PAINT
ACT	ACOUSTICAL CEILING TILE	PFIN	PREFINISHED
ADJ	ADJACENT	PL	PLASTIC LAMINATE
AF	ARCHITECTURAL FILM	QTZ	QUARTZ
AFB	ABOVE FINISHED FLOOR	RB	RESILIENT WALL BASE
AP	ACOUSTIC PANEL	RF	RESINOUS POURED FLOORING
ART	ARTWORK	RP	RESIN / ACRYLIC PANEL
BRT	BIOBASED RESILIENT TILE	RS	ROLLER SHADE
BR	BRICK / VENEER BRICK	RUB	RUBBER SHEET / TILE
CG	CUBICLE CURTAIN	RUG	RUG CARPETING
CCT	CUBICLE CURTAIN TRACK	RV	DRYWALL/MILLWORK REVEAL
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED, CONTRACTOR FURNISHED, INSTALLED BY OTHERS.	S	SIGNAGE
CFOI	CONTRACTOR FURNISHED, INSTALLED BY OTHERS.	SC	SHOWER CURTAIN
CJ	CORNER GUARD	SCR	SHOWER CURTAIN ROD
CG	CONTROL JOINT	SD	STATIC DISSIPATIVE FLOORING
CMU	CONCRETE MASONRY UNIT	SF	SQUARE FEET (FOOT)
CON	CONCRETE FLOORING / FINISH	SHT	SHUTTER
CPT	CARPET	SS	SOLID SURFACE
CR	CRASH RAIL	SSS	STAINLESS STEEL
CS	CULTURED STONE	SSV	SPECIALTY SHEET VINYL
CUR	DECORATIVE CURTAIN / ROD	ST	STAIN
DG	DOOR FRAME GUARD	SV	SHEET VINYL
EG	END WALL GUARD	SVT	SPECIALTY VINYL TILE
EM	ENTRY MAT SYSTEM	SY	SQUARE YARD(S)
EWD	ENGINEERED WOOD PLANK	T	TILE FLOORING/WALL / WALL BASE (CERAMIC, PORCELAIN, GLASS)
EX	EXISTING	TP	TOILET PARTITION
EXJ	EXPANSION JOINT	TR	TRIM / CROWN / BASE MOLDING
EXP	EXPOSED	TS	TRANSITION STRIP
F	FABRIC	TYP	TYPICAL
FRP	FIBERGLASS REINFORCED PANEL(S)	TZ	TERRAZZO FLOORING
G	GLASS / GLAZING	UNO	UNFINISHED UNLESS NOTED OTHERWISE
GR	GROUT	VBL	VERTICAL BLINDS
GYP	GYPSUM WALL BOARD	VCT	VINYL COMPOSITION TILE
HBL	HORIZONTAL BLINDS	RET	VINYL ENHANCED TILE
HR	HAND RAIL	VIF	VERIFY IN FIELD
LF	LINEAR FEET (FOOT)	WC	WALL COVERING
LIN	LINOLEUM SHEET / TILE	WCT	WOOD CEILING TILE / PLANK
LS	LOUVER SYSTEM	WD	WOOD (VENEER, PANELING, WAINSCOT, FLOORING)
LVT	LUXURY VINYL TILE	WF	WINDOW FILM
MB	MOLDED WALL BASE	WP	WALL PROTECTION
MTL	METAL	WR	WHITEROCK
MISC	MISCELLANEOUS		
MP	METAL PANEL		
NA	NOT APPLICABLE		
NS	NATURAL STONE		

PRODUCT REPRESENTATIVES

MANUFACTURER	ACCOUNT REPRESENTATIVE		
	NAME	PHONE NUMBER	EMAIL
ARMSTRONG COMMERCIAL	DOUGLAS ELDRENKAMP	331-231-8281	DAELDRENKAMP@ARMSTRONGCEILING.COM
CONSTRUCTION SPECIALTIES	RANDY FORD	630-362-0820	RANDY@LLINISPECIALTIES.COM
INTERFACE	JOJO FRIAS	224-478-9233	JOJO.FRIAS@INTERFACE.COM
PATCRAFT	ZACH ALLEN	314-313-4119	ZACH.ALLEN@PATCRAFT.COM
SHERWIN WILLIAMS	HANK MEINKING	314-281-7485	HANK.MEINKING@SHERWIN.COM
TARKETT	BRIAN AYRES	314-324-0086	BRIAN.AYRES@TARKETT.COM



Farnsworth GROUP
2211 W. BRADLEY AVENUE
CHAMPAIGN, ILLINOIS 61821
(217) 352-7408 / info@f-w.com
www.f-w.com
Engineers | Architects | Surveyors | Scientists

ISSUE: # DATE: DESCRIPTION:

Permit / Bid Set

PROJECT:
THE CITY OF MARSHALL

MARSHALL PUBLIC LIBRARY PHASE II RENOVATIONS

612 ARCHER AVE. MARSHALL, IL 62441

DATE: 11/09/2023

DESIGNED: SB, LLN

DRAWN: LLN

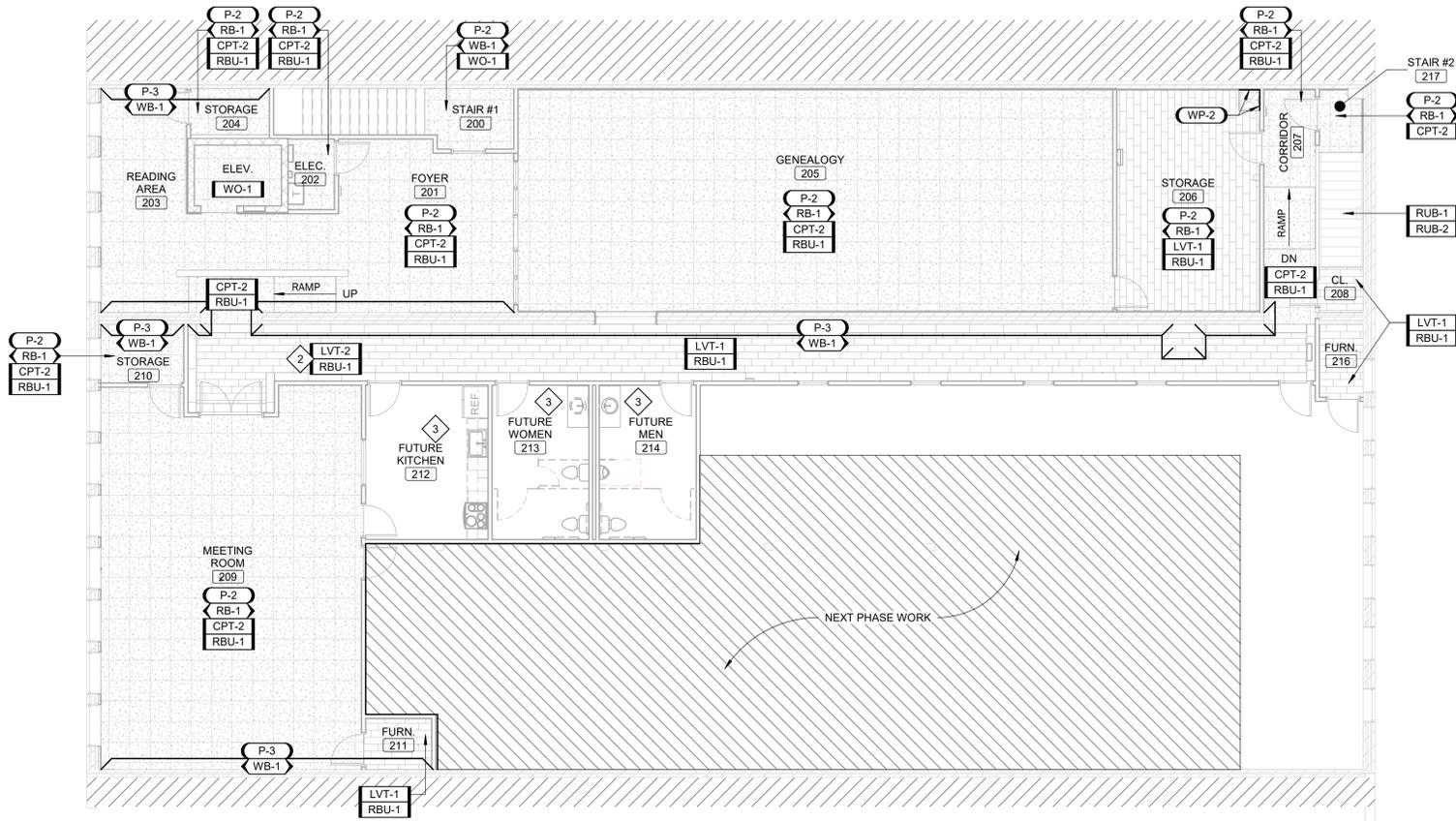
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GENERAL INFORMATION

SHEET NUMBER:

10.1

PROJECT NO.: 0230585.00



2 SECOND FLOOR FINISH PLAN
Scale: 1/8" = 1'-0"

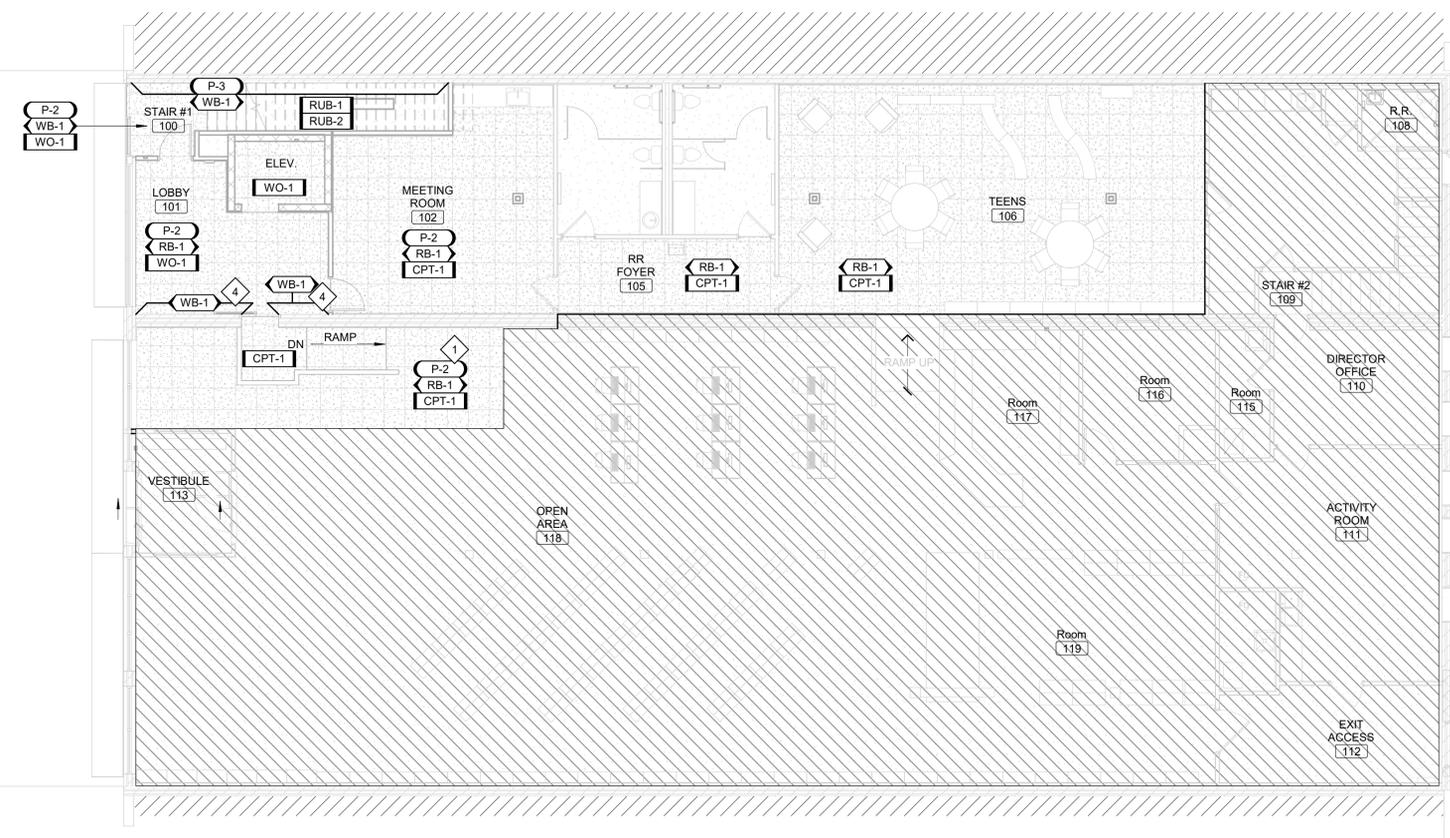


FINISH PLAN GENERAL NOTES

- A. ALL FLOOR TRANSITIONS THAT CHANGE MATERIALS AND/OR CHANGE THICKNESS TO RECEIVE TRANSITION STRIP TO BE APPROVED BY ARCHITECT.
- B. ALL FLOOR FINISHES TO EXTEND BENEATH CASEWORK.
- C. UNO ALL PARTITIONS TO RECEIVE PAINT P-2.
- D. UNO ALL DUCT WORK, PIPING & CONDUITS TO RECEIVE P-4.
- E. UNO ALL METAL DOORS TO RECEIVE P-4, REFER TO DOOR SCHEDULE FOR ADDITIONAL INFORMATION.
- F. UNO ALL HOLLOW METAL FRAMES TO RECEIVE P-4, REFER TO DOOR SCHEDULE FOR ADDITIONAL INFORMATION.
- G. UNO ALL WALL BASE SHALL BE RB-1. WOOD BASE TO BE INSTALLED ON EXPOSED BRICK WALLS. SEE PLAN FOR WOOD BASE (WB-1) FOR LOCATIONS.
- H. UNO ALL WP-1 SHALL BE 4'-0"W x 4'-0"H AT MOP SINKS.
- I. SOUNDPROOFING UNDERLAYMENT (RBU-1) TO BE INSTALLED UNDER 2ND FLOOR FINISHES EXCEPT AT STAIR #1 (200) AND STAIR #2 (217) AT TOP OF STAIR LANDINGS. COORDINATE INSTALLATION WITH UNDERLAYMENT MANUFACTURER'S INSTALLATION REQUIREMENTS. FEATHER FLOORING INSTALLATION BETWEEN AREAS WITHOUT UNDERLAYMENT FOR SMOOTH TRANSITION.

Farnsworth GROUP
2211 W. BRADLEY AVENUE
CHAMPAIGN, ILLINOIS 61821
(217) 352-7408 / info@f-w.com
www.f-w.com
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ISSUE # DATE DESCRIPTION:



1 FIRST FLOOR FINISH PLAN
Scale: 1/8" = 1'-0"



INTERIOR FINISH KEYNOTES

- 1 PATCH AREA TO MATCH EXISTING FINISHES.
- 2 U.N.O. LUXURY VINYL TILE (LVT-2) TO BE ONE PLANK IN WIDTH.
- 3 NO FINISHES IN THIS AREA. AREA TO BE COMPLETED AT A LATER DATE.
- 4 EXPOSED BRICK WALL.

Permit / Bid Set

PROJECT:
THE CITY OF MARSHALL

MARSHALL PUBLIC LIBRARY PHASE II RENOVATIONS

612 ARCHER AVE. MARSHALL, IL 62441

DATE: 11/09/2023

DESIGNED: SB, LLN

DRAWN: LLN

REVIEWED: LU

SHEET TITLE:
INTERIORS FIRST & SECOND FLOOR FINISH PLANS

SHEET NUMBER:
11.1

PROJECT NO.: 0230585.00

11/14/2023 4:05:04 PM



Farnsworth GROUP

2211 W. BRADLEY AVENUE
CHAMPAIGN, ILLINOIS 61821
(217) 352-7408 / info@f-w.com

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ISSUE:
DATE: DESCRIPTION:

Permit / Bid Set

PROJECT:
THE CITY OF MARSHALL

Marshall Public Library Phase II Renovations

612 Archer Avenue Marshall, IL
62441

DATE: 11/09/2023

DESIGNED: SHR

DRAWN: SHR

REVIEWED: JPH

GENERAL INFORMATION

SHEET NUMBER:

P0.1

PROJECT NO.: 0230585.00

SYMBOLS LEGEND

NOTE: NOT ALL SYMBOLS ARE USED IN CONSTRUCTION DOCUMENTS

PIPING

	PIPE SLOPE ARROW
	FLOW ARROW
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	3-WAY CONTROL VALVE
	ANGLE GLOBE VALVE
	ANGLE GLOBE VALVE
	BALANCING/SHUTOFF VALVE
	BALL VALVE
	BUTTERFLY VALVE
	CALIBRATED BALANCING VALVE
	CHECK VALVE
	CONTROL VALVE
	EXPANSION VALVE
	GAS COCK
	GATE VALVE
	GLOBE VALVE
	PLUG VALVE
	PRESSURE REDUCING VALVE (WATER)
	PRESSURE REGULATOR (GAS)
	QUICK OPEN VALVE
	SAFETY RELIEF VALVE
	SOLENOID VALVE
	VACUUM RELIEF VALVE
	BACKFLOW PREVENTER
	HOSE BIBB / SILLCOCK
	AUTOMATIC AIR VENT
	PRESSURE GAUGE
	THERMOMETER
	FLOW SWITCH
	PRESSURE SWITCH
	TEMPERATURE SWITCH
	PIPE UNION
	WYE STRAINER
	WYE STRAINER W/DRAIN VALVE
	PUMP
	FLOOR DRAIN - ROUND OR SQUARE
	FLOOR CLEANOUT - ROUND OR SQUARE
	SUSPENDED CLEANOUT
	WALL CLEANOUT
	PIPE CAP
	PIPE TURNING DOWN
	PIPE TURNING UP
	TEE UP
	TEE DOWN
	DROP AND RUN
	DROP AND TURN
	TEE OFF TOP
	TEE OFF BOTTOM
	CROSS AND RISER
	PLAN 90° ELBOW
	PIPE TEE
	FLEXIBLE PIPE CONNECTOR
	PIPE ANCHOR
	PIPE GUIDES
	WATER METER

PIPING SYSTEM

AW	ACID WASTE
CA	COMPRESSED AIR
CD	CONDENSATE DRAIN
CO2	CARBON DIOXIDE
G	NATURAL GAS
GW	GREASE WASTE
MA	MEDICAL AIR
N2	NITROGEN
N2O	NITROUS OXIDE
OST	OVERFLOW STORM
OW	OIL WASTE
O2	OXYGEN
PD	PUMP DISCHARGE
ST	STORM
VAC	VACUUM
WAGD	WASTE ANESTHETIC GAS DISPOSAL
W	SANITARY WASTE
AV	ACID VENT
OV	OIL VENT
V	SANITARY VENT
CW	DOMESTIC COLD WATER
DI	DE-IONIZED WATER
FCW	FILTERED COLD WATER
LCW	LAB COLD WATER
NPCW	NONPOTABLE COLD WATER
RO	REVERSE OSMOSIS WATER
SCW	SOFTENED COLD WATER
HW	DOMESTIC HOT WATER
HW (---)	DOMESTIC HOT WATER (OTHER TEMP)
LHW	LAB HOT WATER
TW	TEPID WATER
HWC	DOMESTIC HW RECIRCULATION
LHWC	LAB HW RECIRCULATION

GENERAL

	DETAIL OR SECTION MARK
	DETAIL #
	SHEET #
	POINT OF NEW CONNECTION
	POINT OF TERMINATION/CAP
	PLUMBING EQUIPMENT DESIGNATION
	PLUMBING KEYNOTE
	KITCHEN EQUIPMENT DESIGNATION
	NEW BOLD TEXT INDICATES NEW ITEM
	EXISTING ITALIC TEXT INDICATES EXISTING ITEM
	LINE STYLE INDICATES DEMOLISHED ITEM

ABBREVIATIONS

AC	ABOVE CEILING
AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
BAS	BUILDING AUTOMATION SYSTEM
BF	BELOW FLOOR
BG	BELOW GRADE
BH	BOOSTER HEATER
BFP	BACKFLOW PREVENTION DEVICE
BJ	BETWEEN JOISTS
BOP	BOTTOM OF PIPE
BTUH	BRITISH THERMAL UNITS PER HOUR
CF	COMBINATION FIXTURE
COND	CONDENSATE
CP	CONDENSATE PUMP
CSS	CLINICAL SERVICE SINK
CV	CONTROL VALVE
DF	DRINKING FOUNTAIN
DN	DOWN
DS	DOWNSPOUT NOZZLE
DW	DISHWASHER
EC	ELECTRICAL CONTRACTOR
EEW	EMERGENCY EYE WASH
ESH	COMB. EMERGENCY EYE WASH/SHOWER
ET	EXPANSION TANK
EWC	ELECTRIC WATER COOLER
EWB	ELECTRIC WATER HEATER
FA	FROM ABOVE
FB	FROM BELOW
FBO	FURNISHED BY OTHERS
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FFA	FROM FLOOR ABOVE
FFB	FROM FLOOR BELOW
FPC	FIRE PROTECTION SUBCONTRACTOR
FS	FLOOR SINK
FT	FILL TANK
GD	GARBAGE DISPOSAL
GPM	GALLONS PER MINUTE
GWH	GAS WATER HEATER
GC	GENERAL CONTRACTOR
HAP	HIGH AS POSSIBLE
HB	HOSE BIBB (INTERIOR)
HS	HOSE STATION
HWCP	HOT WATER RECIRCULATION PUMP
IM	ICE MAKER
L	LAVATORY
LT	LAUNDRY TUB
MBH	THOUSANDS OF BTU PER HOUR
MC	MECHANICAL CONTRACTOR
MSB	MOP SINK BASIN
NTS	NOT TO SCALE
ORD	OVERFLOW ROOF DRAIN
P	PUMP
PC	PLUMBING CONTRACTOR
PRV	PRESSURE RELIEF VALVE
RD	ROOF DRAIN
SC	SILLCOCK (EXTERIOR)
SE	SEWAGE EJECTOR
SF	SQUARE FOOT
SH	SHOWER
SK	SINK
SP	SUMP PUMP
SS	SERVICE SINK
TFA	TO FLOOR ABOVE
TB	TO BELOW
TFB	TO FLOOR BELOW
TMV	THERMOSTATIC MIXING VALVE
TOP	TOP OF PIPE
UR	URINAL
VB	VACUUM BREAKER
VTR	VENT THRU ROOF
WB	WASHER BOX
WC	WATER CLOSET
WCO	WALL CLEANOUT
WF	WASH FOUNTAIN
WFL	WATER FILTER
WS	WATER SOFTENER
YCO	YARD CLEANOUT

GENERAL NOTES

COMMON REQUIREMENTS

- WORK SHALL BE PERFORMED BY A LICENSED PLUMBER OF THE STATE OF ILLINOIS.
- MATERIALS, INSTALLATION AND TESTING SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF STATE AND LOCAL CODE PROCEDURES, METHODS AND REQUIREMENTS, INCLUDING THE MOST STRINGENT OF HEALTH AND SAFETY STANDARDS AS REQUIRED AND AS INTERPRETED BY THE AUTHORITY HAVING JURISDICTION. APPLICABLE CODES AND STANDARDS INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
 - "ILLINOIS PLUMBING CODE"
 - "INTERNATIONAL PLUMBING CODE"
 - "INTERNATIONAL FUEL GAS CODE"
 - "NFPA 54 - NATIONAL FUEL GAS CODE"
 - APPLICABLE LOCAL AND MUNICIPAL CODES AND ORDINANCES.
- MEANING AND INTENT OF DRAWINGS: DRAWINGS ARE DIAGRAMMATIC AND PLUMBING SYSTEMS ARE SHOWN IN SCHEMATIC FORM. DRAWINGS DO NOT SHOW EVERY PLUMBING SYSTEM COMPONENT AND SHOULD BE FOLLOWED AS CLOSELY AS CIRCUMSTANCES WILL PERMIT. PLUMBING SYSTEM INSTALLATIONS RELATED TO THIS PROJECT SHALL BE PROVIDED TO MEET THE INTENT AND MEANING OF THE DRAWINGS IN COMPLIANCE WITH APPLICABLE CODES, AND STANDARDS. WHERE APPLICABLE THE PLUMBING CONTRACTOR SHALL FIELD VERIFY CONDITIONS PRIOR TO INSTALLATION. REPORT ANY QUESTIONS, OR CONCERNS TO THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH WORK. NOTED DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. MINOR CHANGES IN LOCATIONS OF PLUMBING EQUIPMENT, &/OR SYSTEMS FROM THOSE INDICATED ON DRAWINGS SHALL BE MADE WITHOUT EXTRA COST. A COMPLETE AND OPERATIONAL PLUMBING SYSTEM SHALL BE PROVIDED.
- THE PLUMBING CONTRACTOR SHALL REFER TO BOTH DRAWINGS AND SPECIFICATIONS FOR ALL PLUMBING CRITERIA REQUIRED FOR THIS PROJECT.
- PLUMBING CONTRACTOR IS RESPONSIBLE FOR ALL PLUMBING UTILITY SERVICES FROM 5'-0" OUTSIDE BUILDING FOUNDATION WALL TO WITHIN THE BUILDING UNLESS NOTED OTHERWISE ON PLANS. SEE SITE UTILITY PLANS FOR RELATED SITE UTILITY WORK BY OTHERS.
- COORDINATE ROUTING OF PIPING WITH ALL OTHER TRADES AND STRUCTURAL CONDITIONS TO AVOID ANY ROUTING CONFLICTS OR SERVICE INTERFERENCES.
- MAINTAIN A MINIMUM CLEARANCE IN FRONT OF AND FROM EITHER SIDE OF ELECTRICAL PANELS, EQUIPMENT, ETC., AS OUTLINED IN NEC STANDARDS. PIPE SYSTEMS SHALL NOT BE ROUTED DIRECTLY OVER PANELS, EQUIPMENT, ETC.
- INCLUDE IN BID, ALL LICENSE, PERMIT, INSPECTION AND OTHER FEES REQUIRED BY UTILITY COMPANIES OR AUTHORITIES HAVING JURISDICTION REQUIRED FOR COMPLETION OF WORK SO THAT NO UNEXPECTED ADDITIONAL EXPENSES ARE INTRODUCED TO OWNER.
- ALL CLEANOUTS, VALVES, WATER HAMMER ARRESTORS, ETC. ARE TO BE ACCESSIBLE. EXTEND PIPING AND COORDINATE ACCESS PANEL SIZE AND LOCATION AS NECESSARY.
- PLUMBING CONTRACTOR SHALL CLEAN WORK AREA OF ALL DUST AND DEBRIS GENERATED BY THEIR WORK AT THE END OF EACH WORK DAY.
- ALL PLUMBING SYSTEM VALVES SHALL BE INSTALLED IN A LOCATION AND ORIENTATION THAT WILL PERMIT INTENDED USE.
- PROVIDE STOPS AND/OR ISOLATION VALVES TO EACH INDIVIDUAL FIXTURE, FIXTURE GROUP OR PIECE OF EQUIPMENT PER APPLICABLE CODES TO ALLOW FOR INDIVIDUAL SERVICING UNLESS NOTED OTHERWISE ON PLANS.
- SANITARY WASTE PIPING SHALL BE SLOPED AT 1/8-INCH PER FOOT MINIMUM FOR ALL PIPING 4-INCH AND LARGER AND AT 1/4-INCH PER FOOT MINIMUM FOR ALL PIPING 3-INCH AND SMALLER.
- INDIRECT DRAIN PIPING FROM FIXTURES, SPECIALTIES, AND EQUIPMENT SHALL BE ROUTED TO FLOOR DRAIN OR OTHER APPROVED RECEPTACLE AND TERMINATED WITH AN AIR GAP 2 TIMES THE DIAMETER OF THE DRAIN PIPING, BUT NOT LESS THAN 1 INCH GAP. SUPPORT PIPING SO DRAIN PIPING CANNOT BE DEFLECTED FROM DRAIN SOURCE.
- ALL VENTS FROM HORIZONTAL SOIL OR WASTE PIPE SHALL COME OFF TOP OR AT 45 DEGREE VERTICALLY FROM CENTER OF PIPE BEFORE OFFSETTING HORIZONTALLY TO RISER.
- ALL VENT TERMINATIONS SHALL BE COORDINATED WITH BUILDING OPENINGS, AIR INTAKES AND AIR EXHAUST OPENINGS. ADJUST VENT THROUGH ROOF LOCATIONS TO COMPLY WITH APPLICABLE CODE.
- PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ASSURING ALL HANGERS AND SUPPORTS ARE SECURELY ANCHORED OR ATTACHED TO BUILDING ELEMENTS ADEQUATE FOR INTENDED PLUMBING SYSTEM OR EQUIPMENT.
- PLUMBING CONTRACTOR TO PROVIDE AND INSTALL NAIL PLATES WHERE PIPING PASSES THROUGH STUD(S) WITHIN 2" OF NAILING SURFACE TO PROTECT PIPE FROM NAILS OR DRYWALL SCREWS.
- PLUMBING CONTRACTOR SHALL PROVIDE APPROVED WATER HAMMER ARRESTORS IN WATER LINES SERVING QUICK-CLOSING VALVES, BATTERIED, OR BACK TO BACK FIXTURES WITH INDIVIDUAL ISOLATION VALVES.
- ALL NEWLY INSTALLED CIRCULATED HOT WATER SHALL BE WITHIN THE MAXIMUM ALLOWABLE PIPE LENGTH TO TERMINATE AT EACH FIXTURE, OR APPLIANCE AS OUTLINED IN THE INTERNATIONAL ENERGY CONSERVATION CODE. SPECIAL ATTENTION SHOULD BE PAID TO PUBLIC LAVATORIES WHERE MAXIMUM PIPE LENGTHS ARE LIMITED. REFER TO PLUMBING PLANS AND DETAILS FOR CLARIFICATION.
- ALL P-TRAPS FOR FLOOR DRAINS AND FLOOR SINKS SHALL BE DEEP SEAL TYPE. TRAPS SHALL MAINTAIN THE SEWER GAS SEAL'S BY MEANS OF A PRIMING DEVICE DESIGNED FOR SUCH PURPOSES OR BY OTHER METHODS AS ACCEPTABLE BY CODE AND AHJ.
- PLUMBING CONTRACTOR TO INSTALL, TEST, AND FIELD BALANCE APPROVED EQUIPMENT PER MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS.
- PROVIDE INSULATION FOR THE PLUMBING PIPING SYSTEMS DESCRIBED IN THESE DRAWINGS AS PER THE IPC AND THE IECC.
- PLASTIC PIPING SHALL NOT BE ALLOWED IN ANY CAVITY THAT CAN BE USED AS AN AIR TRANSFER PLENUM.

DEMOLITION

- THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISCONNECTION AND REMOVAL OF ALL PLUMBING FIXTURES, PIPING, EQUIPMENT, AND ASSOCIATED APPURTENANCES. NO PERSON OTHER THAN A LICENSED PLUMBER SHALL REMOVE PLUMBING ITEMS FROM THEIR ORIGINAL LOCATION.
- SHUTDOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH OWNER TO LIMIT INTERFERENCE WITH OWNER'S OPERATION AND DOWNTIME. CONTRACTOR SHALL SUBMIT TO OWNER FOR REVIEW AND APPROVAL, THE PROPOSED PHASING PLAN FOR SHUTDOWN OF EXISTING SERVICES.
- CONTRACTOR SHALL COMPLY WITH GENERAL CONDITIONS AND PROTECTION PROVISIONS SPECIFIED FOR JOINT OWNER/CONTRACTOR OCCUPANCY WORK AREAS.
- CONTRACTOR SHALL PROTECT EXISTING UTILITIES TO REMAIN FROM DAMAGE DURING DEMOLITION. ANY UTILITIES AND SERVICES DAMAGED SHALL BE REPAIRED AT NO EXPENSE TO OWNER.
- CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES PRIOR TO TEMPORARILY MOVING OR TAKING EQUIPMENT OUT OF SERVICE AS NECESSARY TO COMPLETE WORK.
- WHERE APPLICABLE, THE PLUMBING CONTRACTOR SHALL COORDINATE WITH THE OWNER AND GENERAL TRADE FOR ANY WALL AND CEILING OPENINGS IN WHICH PLUMBING WORK IS TO BE PERFORMED. GENERAL TRADE SHALL BE RESPONSIBLE FOR PATCHING SUCH WALL AND CEILING OPENINGS TO MATCH EXISTING ONCE PLUMBING INSTALLATION HAS BEEN COMPLETED.
- WHERE APPLICABLE THE PLUMBING CONTRACTOR SHALL DEMARCATTE EXISTING CONCRETE FLOOR AREAS FOR SAW CUT AND REMOVAL BY GENERAL TRADE. PLUMBING CONTRACTOR SHALL PROVIDE ALL EXCAVATION AND BACKFILL REQUIRED FOR INSTALLATION OF SYSTEM PIPING AND SPECIALTIES. GENERAL TRADE WILL BE RESPONSIBLE FOR PATCHING FLOOR AREAS FLUSH TO MATCH WITH EXISTING FLOOR ONCE PLUMBING INSTALLATION HAS BEEN COMPLETED.

GENERAL PLUMBING REQUIREMENTS

- A. PLUMBING CONTRACTOR SHALL THOROUGHLY REVIEW PLUMBING PLANS AND CONTRACT DOCUMENTS TO DETERMINE SCOPE OF WORK. WHERE QUESTIONS ARISE, A WRITTEN REQUEST FOR INFORMATION SHALL BE SUBMITTED DURING THE BIDDING PROCESS.
- B. FURNISH ALL MATERIALS, LABOR, INSURANCE, TRANSPORTATION, AND FACILITIES NECESSARY FOR COMPLETE INSTALLATION OF PLUMBING SYSTEMS INDICATED FOR THIS PROJECT.

REGULATORY REQUIREMENTS

- A. PLUMBING INSTALLATION SHALL CONFORM TO APPLICABLE STATE AND INTERNATIONAL CODES AND STANDARDS AS ADOPTED BY THE AUTHORITIES HAVING JURISDICTION.
- B. PLUMBING CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND SCHEDULING INSPECTIONS PRIOR TO AND THROUGHOUT CONSTRUCTION.
- C. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING EACH UTILITY AND INCORPORATING COSTS ASSOCIATED WITH SERVICES, METERS, VAULTS AND SPECIALTIES REQUIRED FOR COMPLETE INSTALLATIONS UNLESS OTHERWISE INDICATED ON PLANS.

SUBMITTALS

- A. SUBMIT PRODUCT DATA FOR THE FOLLOWING ITEMS WHERE INDICATED, OR SCHEDULED ON PLANS:
1. PLUMBING FIXTURES INCLUDING: WATER CLOSETS, URINALS, SHOWERS, BATHS AND BATH/SHOWER ENCLOSURES, SINKS, MOP BASINS, WASH FOUNTAINS, EMERGENCY EYE/FACE FIXTURES, EMERGENCY SHOWERS, DRINKING FOUNTAINS, ELECTRIC WATER COOLERS, AND SECURITY FIXTURES.
 2. PLUMBING DOMESTIC WATER SPECIALTIES INCLUDING: BACKFLOW PREVENTERS, TRAPS, PRESSURE REDUCING VALVES, BALANCE VALVES, MIXING VALVES, OUTLET BOXES, HOSE BIBBS, SILL COCKS, AND TRAP PRIMERS.
 3. PLUMBING SANITARY WASTE AND STORM DRAINAGE SPECIALTIES INCLUDING: BACKWATER VALVES, CLEANOUTS, FLOOR DRAINS/SINKS, TRENCH DRAINS, CATCH BASINS, GREASE TRAPS, OIL SEPARATORS, SOLIDS INTERCEPTORS, BOTTLE TRAPS, ROOF DRAINS AND SECONDARY DRAIN OUTLETS.
 4. PLUMBING EQUIPMENT INCLUDING: WATER HEATERS, DOMESTIC WATER HEAT EXCHANGERS, STORAGE TANKS, SOFTENERS (AND OTHER WATER CONDITIONING EQUIPMENT), WATER FILTERS, AIR COMPRESSORS, AIR DRYERS, AIR FILTERS, VACUUM PUMPS, HOSE REELS, AIR REGULATORS/LUBRICATORS, QUICK-CONNECTS, MEDICAL GAS ALARMS AND OUTLETS, LABORATORY GAS TURRETS, AND STORM/SEWER/WATER PUMPS.
 5. PLUMBING SYSTEMS INCLUDING: DOMESTIC WATER, SANITARY WASTE & VENT, STORM WATER, LABORATORY GAS, ACID WASTE AND VENT, GAS, AND MEDICAL GAS PIPING.
 6. PLUMBING PIPE INSULATION: PRODUCT DESCRIPTION, THERMAL CHARACTERISTICS, LIST OF MATERIALS AND THICKNESSES FOR EACH SERVICE, AND LOCATIONS.
 7. MISCELLANEOUS PRODUCT DATA INCLUDING: PIPE INSULATION; EQUIPMENT INSULATION; DOMESTIC WATER VALVES, THERMOMETERS, PRESSURE GAUGES, AND PIPE SYSTEM IDENTIFICATION (PIPE MARKERS, TAGS, ETC.).
- B. SUBMIT EQUIPMENT DATA TO INCLUDE THE FOLLOWING WHERE APPLICABLE TO ITEM:
1. LABELING INCLUDING CODE, TESTING, AND AGENCY CERTIFICATIONS.
 2. DIMENSIONAL DRAWINGS INCLUDING OVERALL SIZE, ANCHORAGE POINTS, REQUIRED CLEARANCES, UTILITY TYPE, SIZE AND LOCATION OF ALL UTILITY CONNECTIONS.
 3. ELECTRICAL CHARACTERISTICS INCLUDING WIRING DIAGRAMS FOR POWER, SIGNAL AND CONTROL WIRING.
 4. CONTROL PANEL DATA.
 5. ACCESSORIES HIGHLIGHTED TO MATCH SPECIFICATION.
 6. PUMP FLOW CURVE DATA &/OR RATED CAPACITIES.
 7. WARRANTY INFORMATION.

PROJECT CLOSEOUT

- A. PLUMBING CONTRACTOR SHALL TRAIN OWNER'S REPRESENTATIVE IN THE PROPER OPERATION OF EACH PIECE OF EQUIPMENT AND FIXTURES.
- B. TURN OVER MANUFACTURER INSTALLATION, PARTS, AND MAINTENANCE MANUALS TO OWNER'S REPRESENTATIVE.

EXECUTION

- A. INSTALL PLUMBING SYSTEMS AND APPURTENANCES AS FOLLOWS WHERE APPLICABLE:

1. ALL PIPING SHALL BE INSTALLED PARALLEL WITH OR AT RIGHT ANGLES TO THE BUILDING WALLS WHENEVER POSSIBLE. ALL VERTICAL RISERS SHALL BE INSTALLED PLUMB AND STRAIGHT.
2. DOMESTIC WATER PIPING SHALL BE INSTALLED LEVEL AND WITHOUT PITCH UNLESS OTHERWISE NOTED ON PLANS.
3. INSTALL DIELECTRIC UNIONS, FITTINGS, FLANGES, ETC. WHERE CONNECTING DISSIMILAR METAL PIPE MATERIALS.
4. APPLY FIRE STOP FOR ALL PIPE PENETRATIONS THROUGH FIRE RATED WALLS, OR FLOORS. REFERENCE ARCHITECTURAL LIFE SAFETY PLANS FOR LOCATIONS.
5. INSTALL PIPE MARKERS ON PIPING 2-INCH AND LARGER WITH ONE MARKER ON HORIZONTAL RUNS EVERY 50 FEET, OR AT LEAST ONE IN EACH AREA SEPARATED BY FULL HEIGHT WALLS. INSTALL PER MANUFACTURER'S RECOMMENDATIONS WITH LABELING LEGIBLE FROM MOST CONVENIENT VANTAGE POINT AT COMPLETION OF PROJECT.
6. LOCATE MANUAL ISOLATION VALVES AT LOCATION AND IN ORIENTATION ACCESSIBLE FOR INTENDED USE. COORDINATE ACCESS PANEL SIZE, TYPE, AND LOCATION AS NECESSARY.
7. SET DOMESTIC HOT WATER RETURN BALANCE VALVES AND TEST SYSTEM TO ENSURE CIRCULATION FROM EACH LOOP.
8. PERFORM HYDROSTATIC TEST ON WATER PIPING SYSTEMS IN KEEPING WITH LOCAL AHJ REQUIREMENTS.
9. COORDINATE ROUGH-IN INSPECTION, TESTING AND APPROVAL OF SYSTEMS IN PRESENCE OF AUTHORITY HAVING JURISDICTION PRIOR TO BACKFILLING, OR ENCLOSING.
10. FLUSH AND DISINFECT DOMESTIC WATER PIPING AS OUTLINED BY STATE, OR INTERNATIONAL PLUMBING CODES AS APPLICABLE TO PROJECT LOCATION.
11. TEST WASTE AND VENT SYSTEMS TO WITHSTAND 10 FOOT OF HEAD PRESSURE.
12. INSTALL ESCUTCHEONS FOR PIPING PENETRATIONS OF WALLS, CEILINGS AND FLOORS.
13. INSTALL THERMOMETERS AT EACH DOMESTIC WATER HEATER OUTLET AND OTHER LOCATIONS WHERE INDICATED ON DRAWINGS. LOCATE AND ORIENTATE THERMOMETERS IN OPTIMUM LOCATION FOR READING.
14. LOCATE PIPE-MOUNTED AQUA-STATS UPSTREAM DOMESTIC HOT WATER CIRCULATION PUMPS. ADJUST ACTIVATION SETTINGS AND TEST FOR PROPER OPERATION USING REMOTE FIXTURE, OR OUTLET.
15. INSTALL PRESSURE GAUGES UPSTREAM AND DOWNSTREAM OF EACH DOMESTIC WATER REGULATOR, AND AT THE OUTLET OF EACH AIR COMPRESSOR &/OR RECEIVER AND OTHER LOCATIONS WHERE INDICATED ON PLANS.
16. INSTALL MECHANICAL SLEEVE SEALS WHERE PLUMBING PIPING PASSES THROUGH ELEVATOR PIT WALLS, OR FOUNDATION WALLS BELOW GRADE WHERE SUB-GRADE LEVEL EXISTS.
17. TEST ALL EQUIPMENT CONTROL PANELS AND RELATED FLOATS, OR OTHER COMPONENTS FOR PROPER OPERATION. ENGAGE FACTORY REPRESENTATIVE WHEREVER NEEDED TO OBTAIN INTENDED OPERATION, AND TO TRAIN OWNER'S PERSONNEL WHERE INDICATED ON PLANS, OR SCHEDULES.
18. FILL GREASE AND OIL TRAPS AND SEPARATORS WITH COLD WATER UP TO INVERT AFTER INITIAL INSTALLATION AND PRIOR TO OWNER USE.
19. INSTALL SEISMIC RESTRAINTS ON ABOVE GROUND NATURAL GAS PIPING AND OTHER SYSTEMS WHERE APPLICABLE TO PROJECT LOCATION.
20. LEAK TEST COMPRESSED AIR PIPING AT SERVICE PRESSURE AND LET STAND FOR FOUR HOURS WITHOUT DROP IN PRESSURE. REPAIR LEAKS AND RETEST IF NEEDED.
21. ENSURE REDUCED PRESSURE AND DOUBLE CHECK BACKFLOW PREVENTERS HAVE BEEN TESTED BY AN ILLINOIS LICENSED PLUMBER HAVING "CROSS-CONNECTION CONTROL DEVICE INSPECTOR" CERTIFICATION. AFFIX COPY OF CERTIFICATION TO EACH DEVICE IN CLEAR PLASTIC SLEEVE AND ZIP TIE. DELIVER AN ADDITIONAL COPY OF EACH CERTIFICATION TO OWNER'S REPRESENTATIVE FOR THEIR RECORDS.

HOUSEKEEPING

- A. PROVIDE AND MAINTAIN PROTECTIVE COVERS ON FIXTURES AND WATER COOLERS THROUGHOUT CONSTRUCTION. DO NOT PERMIT USE BY CONSTRUCTION PERSONNEL UNLESS APPROVED BY OWNER'S REPRESENTATIVE.
- B. CLEAN WORK AREA AT THE END OF EACH WORK DAY. FIXTURES, EQUIPMENT, AND EXPOSED PIPE SYSTEMS SHALL BE CLEANED AT THE COMPLETION OF INSTALLATION. REMOVE PROTECTIVE PACKING FILM, LABELS, ETC. PRIOR TO TURNING OVER TO OWNER FOR USE.
- C. MAINTAIN FLOOR DRAIN AND CLEANOUT PROTECTIVE COVERS, OR TAPE THROUGHOUT CONSTRUCTION. REMOVE PROTECTIVE MATERIAL AND CLEAN COVERS/STRAINERS AT SUBSTANTIAL COMPLETION STAGE. REMOVE STRAINERS AND SHOP-VAC OUT P-TRAPS WHEREVER CONSTRUCTION DEBRIS, DIRT, GRAVEL, ETC. HAS MIGRATED INTO UNPROTECTED FLOOR DRAINS. CLEAN AND RE-INSTALL STRAINER.

PLUMBING PIPING

- A. SANITARY WASTE AND VENT - UNDER GRADE/SLAB:
1. OPTION-2: ASTM D2865 OR ASTM D3034 SCHEDULE 40 PVC PIPE AND DWV FITTINGS WITH SOLVENT WELDED JOINTS WITH CLEAR CLEANER AND ASTM D2564 SOLVENT CEMENT.
- B. SANITARY WASTE AND VENT - ABOVE GRADE/SLAB:
1. OPTION-2: ASTM D2865 OR ASTM D3034 SCHEDULE 40 PVC PIPE AND DWV FITTINGS WITH SOLVENT WELDED JOINTS WITH CLEAR CLEANER AND ASTM D2564 SOLVENT CEMENT.
- C.
- D. DOMESTIC WATER PIPING - ABOVE GRADE/SLAB:
1. COPPER TUBE ASTM B88, TYPE L, DRAWN WITH ASME B13.18 CAST COPPER ALLOY, OR ASME B 13.22 WROUGHT COPPER AND BRONZE FITTINGS, AND ASTM B32 ALLOY SN95 SOLDER. COPPER PRESSURE SEAL JOINT FITTINGS AS MANUFACTURED BY VIEGA MAY BE UTILIZED AS AN ALTERNATIVE TO SOLDERED FITTINGS.
- A. NATURAL GAS PIPING - UNDER GRADE/SLAB (DOWNSTREAM SERVICE METER):
1. SCHEDULE 40 BLACK ASTM A53/A53M PIPE WITH ASME B16.3 MALLEABLE IRON, OR ASTM A234/A234M WROUGHT STEEL WELDING TYPE FITTINGS, AND THREADED FITTINGS. ENCASE IN PVC SECONDARY CONTAINMENT PIPING UNDER FLOOR AS NOTED ON PLANS.
 2. EXTERIOR (1-INCH AND UNDER - EXTERIOR ONLY): PE PIPE, ASTM D 2513 SDR11 WITH PE FITTINGS OF SOCKET-FUSION TYPE, OR ASTM D 3261 BUTT-FUSION TYPE DIMENSIONS MATCHING DIMENSIONS OF PE PIPE. INCLUDE FACTORY FABRICATED AND LEAK-TESTED ANODE-LESS RISER AT TRANSITION TO ABOVE GRADE PIPING HAVING: SCH. 40 STEEL CASING, THREADED, OR FLANGED OUTLET SUITABLE FOR WELDED CONNECTION, TRACER WIRE CONNECTION, ULTRAVIOLET SHIELD AND STAKE SUPPORTS WITH FACTOR FINISH TO MATCH STEEL PIPE CASING OR CARRIER PIPE. INSTALL NATURAL GAS PIPING WITH 24" MINIMUM BURY UNLESS NOTED OTHERWISE ON PLANS AND TRACER WIRE FROM RISER TO RISER
- B. NATURAL GAS PIPING (OR COMPRESSED AIR) - ABOVE GRADE/SLAB:
1. SCHEDULE 40 BLACK ASTM A53/A53M PIPE WITH ASME B16.3 MALLEABLE IRON, OR ASTM A234/A234M WROUGHT STEEL WELDING TYPE FITTINGS, AND THREADED (2.5-INCH NPS AND UNDER) OR WELDED (3-INCH AND ABOVE) JOINTS.
 2. OPTION (1-INCH AND UNDER - ABOVE FLOOR ONLY): CORRUGATED STAINLESS STEEL TUBING, ASTM A 240/A 240M, SERIES 300 STAINLESS STEEL WITH FLAME RETARDANT PE COATING AND COPPER ALLOY MECHANICAL FITTINGS WITH ENDS MADE TO FIT AND LISTED FOR USE WITH CORRUGATED STAINLESS STEEL TUBING AND CAPABLE OF METAL-TO-METAL SEAL WITHOUT GASKETS.

PLUMBING PIPE INSULATION

- A. REGULATORY REQUIREMENTS - SURFACE BURNING CHARACTERISTICS: FLAME SPREAD INDEX/SMOKE DEVELOPED INDEX OF 25/50, MAXIMUM WHEN TESTED IN ACCORDANCE WITH ASTM E84, OR UL 723.
- B. INSULATION MATERIALS:
1. GLASS FIBER: ASTM C547 AND ASTM C795 RIGID MOLDED, NON COMBUSTIBLE, K VALUE OF 0.24 AT 75° F; MAXIMUM SERVICE TEMPERATURE 850°F; MAXIMUM MOISTURE ABSORPTION 0.2% BY VOLUME. INCLUDE VAPOR BARRIER CONSISTING OF WHITE KRAFT PAPER WITH GLASS FIBER YAM, BONDED TO ALUMINIZED FILM; MOISTURE VAPOR TRANSMISSION WHEN TESTED IN ACCORDANCE WITH ASTM E916/96M. SECURE WITH VAPOR BARRIER LAP ADHESIVE COMPATIBLE WITH INSULATION, OR ASTM C185 INSULATING CEMENT/MASTIC HYDRAULIC SETTING ON MINERAL WOOL OR INSULATING CEMENT.
 2. FLEXIBLE ELASTOMERIC CELLULAR INSULATION: PREFORMED FLEXIBLE ELASTOMERIC CELLULAR RUBBER INSULATION COMPLYING WITH ASTM C534/C534M GRADE 1; USE MOLDED TUBULAR MATERIAL WHEREVER POSSIBLE. MATERIAL SHALL HAVE SERVICE TEMPERATURE RANGE OF -40° TO 220°F AND BE SEALED WITH AIR DRIED, CONTACT ADHESIVE COMPATIBLE WITH INSULATION.

FITTING COVERS AND JACKETS:

1. INDOOR, FIELD APPLIED PIPE INSULATION JACKETS: WHITE, HIGH IMPACT UV RESISTANT PVC COMPLYING WITH ASTM D 1784, CLASS 1834-C; 0.10 INCH THICK; ROLL STOCK READY FOR SHOP OR FIELD CUT AND FORMING.
2. FITTING COVERS: LIKE MATERIAL TO PIPE INSULATION JACKETS, FACTORY, OR FIELD FABRICATED TO 45 AND 90 DEGREE SHAPES, SHORT AND LONG RADIUS ELBOWS, TEES, VALVES, FLANGES, UNIONS, REDUCERS, AND END CAPS.
3. REFER TO PLUMBING SCHEDULES FOR P-TRAP AND SUPPLY COVER REQUIREMENTS FOR FIXTURES.

PLUMBING PIPE INSULATION (CONTINUED)

D. INSULATION SCHEDULE:

1. DOMESTIC HOT, TEMPERED, AND HOT WATER CIRCULATION PIPING:
 - a. PIPE SIZES 3/4-INCH NPS AND UNDER: 1" THICK GLASS FIBER
 - b. PIPE SIZES 1 1/4-INCH NPS AND ABOVE: 1" THICK GLASS FIBER
2. DOMESTIC COLD WATER:
 - a. PIPE SIZES 1 1/4-INCH NPS AND UNDER: 1/2" THICK GLASS FIBER WITH VAPOR BARRIER, OR ELASTOMERIC.
 - b. 1 1/2-INCH NPS AND ABOVE: 1" THICK GLASS FIBER WITH VAPOR BARRIER, OR ELASTOMERIC
3. HORIZONTAL RAIN WATER LEADERS AND ROOF DRAIN SUMPS (WHERE APPLICABLE):
 - a. PIPE SIZES 2 TO 3-INCH NPS: 1/2" THICK GLASS FIBER WITH VAPOR BARRIER, OR ELASTOMERIC.
 - b. PIPE SIZES 4 TO 10 INCH NPS: 1" THICK GLASS FIBER WITH VAPOR BARRIER, OR ELASTOMERIC.
4. ABOVE FLOOR DRAIN TRAPS (INCLUDING MOP BASINS WHERE APPLICABLE), RECEIVING CONDENSATE, OR CHILLED CLEAR WATER: ALL PIPE SIZES: 1/2" THICK ELASTOMERIC.

PLUMBING PIPE, FITTINGS AND VALVES

- A. BALL VALVES 3-INCH AND SMALLER - GENERAL USE: NO-LEAD TWO PIECE, FULL PORT BRONZE BODY AND TRIM, PRESSURE RATING NO LESS THAN 600 PSIG WOG NON-SHOCK, 125 PSIG WSP, 0 - 350°F TEMPERATURE RANGE; PTFE SEATS; BLOW-OUT PROOF BRONZE STEM; ADJUSTABLE PACKING NUT; CHROME-PLATED BRASS BALL; STANDARD LEVER HANDLE; AND THREADED OR SOLDERED ENDS. INSULATE BODY AND INCLUDE VALVE HANDLE EXTENSIONS FOR VALVES 2.5-INCH AND LARGER.
- B. CHECK VALVES - DOMESTIC WATER APPLICATIONS: NO-LEAD BRONZE BODY Y-PATTERN HORIZONTAL SWING; 200 PSIG NON-SHOCK COLD WORKING PRESSURE; MAXIMUM PRESSURE/TEMPERATURE OF 100 PSIG AT 300°F. RENEWABLE SEAT AND BRONZE DISC, AND THREADED OR SOLDERED ENDS. VALVES MUST COMPLY WITH MSS SP-139 & NSF/ANSI-61-8 COMMERCIAL HOT 180°F.
- C. BALANCING VALVES - DOMESTIC HOT WATER CIRCULATION PIPING (ALL SIZES): BRONZE BODY (NO-LEAD) CALIBRATED BALANCING VALVES, BALL VALVE TYPE WITH TWO READOUT PORTS AND MEMORY-SETTING INDICATOR CAPABLE OF READING IN INCHES OF HEAD.
- D. STRAINERS: THREADED BRASS BODY FOR 175 PSI CWP, Y-PATTERN WITH 1/32 INCH STAINLESS STEEL PERFORATED SCREEN.
- E. DIELECTRIC CONNECTIONS: UNION WITH GALVANIZED OR PLATED STEEL THREADED END, COPPER SOLDER END, WATER IMPERVIOUS ISOLATION BARRIER.
- F. FLANGES: DOMESTIC WATER ALL SIZES: CLASS 125 SLIP-ON, OR TAPPED/THREADED BRONZE WITH PREFORMED NEOPRENE GASKETS.

PIPING IDENTIFICATION

- A. PIPE MARKERS: COMPLY WITH ASME A13.1 (UNLESS OTHERWISE DEFINED BY OWNER STANDARDS); FACTORY FABRICATED, FLEXIBLE SEMI-RIGID PLASTIC; PREFORMED TO FIT AROUND PIPE OR PIPE COVERING; MINIMUM INFORMATION INDICATING FLUID BEING CONVEYED.

HANGERS AND SUPPORTS

- A. CARBON STEEL PIPE HANGERS AND SUPPORTS
1. MSS SP-58, TYPES 1 THROUGH 58, FACTORY FABRICATED COMPONENTS.
 2. GALVANIZED METALLIC COATINGS: PREGALVANIZED OR HOT DIPPED.
 3. PADDED HANGERS: HANGER WITH FIBERGLASS OR OTHER PIPE INSULATION PAD OR CUSHION TO SUPPORT BEARING SURFACE OF PIPE.
 4. HANGER RODS: CONTINUOUS THREADS, NUTS, AND WASHERS MADE OF CARBON, OR STAINLESS STEEL.
- B. TRAPEZE PIPE HANGERS:
1. MSS SP-69, TYPE 59, SHOP, OR FIELD FABRICATED PIPE SUPPORT ASSEMBLY MADE FROM STRUCTURAL CARBON STEEL SHAPES
 2. MSS SP-58 CARBON STEEL HANGER RODS, NUTS, SADDLES, AND U-BOLTS.
- C. METAL FRAMING SYSTEMS:
1. SHOP OR FIELD FABRICATED PIPE SUPPORT ASSEMBLY FOR SUPPORTING MULTIPLE PARALLEL PIPES.
 2. STANDARD: MFMA-4.
 3. CHANNELS: CONTINUOUS SLOTTED STEEL CHANNEL WITH INTURNED LIPS.
 4. CHANNEL NUTS: FORMED OR STAMPED STEEL NUTS OR OTHER DEVICES TO FIT INTO CHANNEL SLOT AND, WHEN TIGHTENED, PREVENT SLIPPING ALONG CHANNEL.
 5. HANGER RODS: CONTINUOUS THREAD ROD, NUTS, AND WASHER MAD OF CARBON, OR STAINLESS STEEL.
 6. METALLIC COATING: GALVANIZED.
- D. PIPE POSITIONING SYSTEMS: IAPMO PS 42, POSITIONING SYSTEM OF METAL BRACKETS, CLIPS, AND STRAPS FOR POSITIONING PIPING IN PIPE SPACES; FOR PLUMBING FIXTURES IN COMMERCIAL APPLICATIONS.
- E. EQUIPMENT SUPPORTS: WELDED, OR SHOP/FIELD FABRICATED EQUIPMENT SUPPORTS MADE FROM STRUCTURAL CARBON STEEL SHAPES.
- F. INSTALLATION:
1. METAL PIPE HANGERS: COMPLY WITH MSS SP-69 AND MSS SP 89, INSTALL HANGERS, SUPPORTS, CLAMPS, AND ATTACHMENTS AS REQUIRED TO PROPERLY SUPPORT PIPING FROM THE BUILDING STRUCTURE.
 2. METAL TRAPEZE HANGERS: COMPLY WITH MSS SP69 AND MSS SP-89. ARRANGE FOR GROUPING OF PARALLEL RUNS OF HORIZONTAL PIPING, AND SUPPORT TOGETHER ON FIELD FABRICATED TRAPEZE PIPE HANGERS, WHERE SIZES VARY SUPPORT TOGETHER AND SPACE TRAPEZES FOR SMALLEST PIPE SIZE, OR INTERMEDIATE SUPPORTS FOR SMALLER DIAMETER PIPES AS SPECIFIED FOR INDIVIDUAL PIPE HANGERS.
 3. INSTALL HANGERS AND SUPPORTS SO THAT PIPING LIVE AND DEAD LOADS AND STRESSES FROM MOVEMENT WILL NOT BE TRANSMITTED TO CONNECTED EQUIPMENT.
 4. PIPE SLOPES: INSTALL HANGERS AND SUPPORTS TO PROVIDE INDICATED PIPE SLOPES AND TO NOT EXCEED MAXIMUM PIPE DEFLECTIONS ALLOWED BY ASME B32.9 FOR BUILDING SERVICES PIPING.
 5. ADJUST HANGERS TO DISTRIBUTE LOADS EQUALLY ON ATTACHMENTS AND TO ACHIEVE INDICATED SLOPE OF PIPE.
 6. TRIM EXCESS LENGTH OF CONTINUOUS THREAD HANGER AND SUPPORT RODS TO 1 1/2".
 7. FASTENER SYSTEMS: INSTALL FASTENER IN COMPLETELY CURED CONCRETE SLABS PER MANUFACTURER'S WRITTEN INSTRUCTIONS, AND USING RECOMMENDED TOOL WHERE APPLICABLE.

HANGERS AND SUPPORTS (CONTINUED)

- G. FASTENER SYSTEMS
1. SIDE-BEAM BRACKETS (MSS TYPE 34): FOR SIDES OF STEEL OR WOODEN BEAMS.
- H. ROOF PIPE SUPPORTS
1. ONE-PIECE UNIT WITH INTEGRAL ROD ROLLER, CLAMPS, OR V-SHAPED CRADLE TO SUPPORT PIPE, FOR ROOF INSTALLATION WITHOUT MEMBRANE PENETRATION.
 2. LOW-TYPE, SINGLE-PIPE STAND, ONE-PIECE PLASTIC BASE UNIT WITH PLASTIC ROLLER, FOR ROOF INSTALLATION WITHOUT MEMBRANE PENETRATION.

I. HANGER AND SUPPORT SCHEDULE:

1. FURNISH AND INSTALL PIPE HANGERS AND SUPPORT AS PER THE LOCALLY ADOPTED CODE, MANUFACTURERS STANDARDIZATION SOCIETY (MSS) STANDARDS, THE LOCAL AHJ REQUIREMENTS AND/OR AS INDICATED IN THE FOLLOWING, WHICHEVER REQUIREMENTS ARE MORE STRINGENT IN TYPES OF SUPPORT REQUIRED, DISTANCES BETWEEN SPANS INDICATED, APPROVED ATTACHMENTS TO BUILDING CONSTRUCTION, ETC. ALL PIPING SHALL BE SUPPORTED TO BOTH MAINTAIN ALIGNMENT AND TO PREVENT SAGGING.
2. FURNISH AND INSTALL SUPPORTS FOR ALL PIPING WITHIN 18 INCHES OF EACH JOINT OR CHANGES IN DIRECTION EQUAL TO 90 DEGREES.
3. PROVIDE RIGID SUPPORT SWAY BRACING FOR CHANGES IN DIRECTION GREATER THAN 45 DEGREES FOR PIPING 4 INCHES IN DIAMETER AND LARGER.
4. WHERE EARTHQUAKE LOADS ARE STIPULATED IN THE LOCALLY ADOPTED BUILDING CODE, FURNISH AND INSTALL PIPING SUPPORTS FOR SEISMIC BRACING IN KEEPING WITH THE LOCAL REQUIREMENTS.
5. DRAIN PIPING SHALL BE ANCHORED TO RESTRAIN AXIAL MOVEMENT. FOR DRAIN PIPING 4 INCHES IN SIZE AND LARGER, RESTRAINTS SHALL BE PROVIDED AT ALL CHANGES IN DIRECTION AND CHANGES IN DIAMETER GRATER THAN 2 NOMINAL PIPE SIZES. PROVIDE BRACES, BLOCKS, AND/OR OTHER METHODS AS APPROVED BY COUPLING MANUFACTURER.
6. SUBMIT PRODUCT LITERATURE FOR HANGERS/SUPPORTS TO ENGINEER FOR REVIEW PRIOR TO PURCHASE.
7. WHERE ALTERNATIVE TYPES OR MANUFACTURER SPECIFIC HANGERS/SUPPORT SYSTEMS ARE DESIRED, SUBMIT PRODUCT LITERATURE TO ENGINEER FOR REVIEW PRIOR TO PURCHASE.
8. COPPER:
 - a. HARD DRAWN PIPE, 1-1/2" DIAMETER OR SMALLER: PROVIDE HANGERS OR SUPPORTS AT A MAXIMUM HORIZONTAL SPACING OF 6 FEET.
 - b. HARD DRAWN PIPE, 2" DIAMETER OR LARGER: PROVIDE HANGERS OR SUPPORTS AT A MAXIMUM HORIZONTAL SPACING OF 10 FEET.
 - c. PROVIDE SUPPORT AT THE BASE OF VERTICAL PIPING AND AT A MAXIMUM VERTICAL SPACING OF EACH FLOOR BUT NOT TO EXCEED 10 FEET.
9. PVC:
 - a. SCHEDULE 40/SCHEDULE 80 PIPE: PROVIDE HANGERS OR SUPPORTS AT A MAXIMUM HORIZONTAL SPACING OF 4 FEET AND AT EVERY HORIZONTAL BRANCH CONNECTION.
10. PROVIDE SUPPORT AT THE BASE OF VERTICAL PIPING AND AT A MAXIMUM VERTICAL SPACING OF EACH FLOOR BUT NOT TO EXCEED 10 FEET. PROVIDE VERTICAL PIPING WITH MID-STORY GUIDES. PROVIDE FOR EXPANSION AT 30 FOOT INTERVALS IN BOTH HORIZONTAL AND VERTICAL PIPING.

11. STEEL PIPE:

- a. THREADED OR WELDED PIPE 1/2" DIAMETER OR SMALLER: PROVIDE HANGERS OR SUPPORTS AT A MAXIMUM HORIZONTAL SPACING OF 6 FEET. PROVIDE SUPPORT AT THE BASE OF THE VERTICAL PIPING AND AT A MAXIMUM VERTICAL SPACING OF 6 FEET.
 - b. THREADED OR WELDED PIPE BETWEEN 3/4" AND 1-1/4" DIAMETER: PROVIDE HANGERS OR SUPPORTS AT A MAXIMUM HORIZONTAL SPACING OF 8 FEET. PROVIDE SUPPORT AT THE BASE OF THE VERTICAL PIPING AND AT A MAXIMUM VERTICAL SPACING OF 8 FEET.
 - c. THREADED OR WELDED PIPE 1-1/2" DIAMETER OR LARGER: PROVIDE HANGERS OR SUPPORTS AT A MAXIMUM HORIZONTAL SPACING OF 10 FEET. PROVIDE SUPPORT AT THE BASE OF THE VERTICAL PIPING AND AT A MAXIMUM VERTICAL SPACING OF EACH FLOOR NOT TO EXCEED 15 FEET.
12. CAST IRON:
- a. HUB AND SPIGOT PIPE: PROVIDE HANGERS OR SUPPORTS WITHIN 18 INCHES OF EACH HUB OR JOINT, NOT TO EXCEED 5 FOOT INTERVALS. FOR PIPING EXCEEDING 5 FEET IN MANUFACTURED LENGTH, PIPING MAY BE SUPPORTED AT NOT MORE THAN 10 FOOT INTERVALS.
 - b. HUBLESS/COMPRESSION PIPE: AT LEAST AT EVERY OTHER JOINT EXCEPT WHERE PIPING EXCEEDS 4 FEET OF MANUFACTURED LENGTH, THEN SUPPORT AT EVERY JOINT, WHERE PROVIDED, PLACE SUPPORT WITHIN 18 INCHES OF JOINT, WHERE THE TOTAL DEVELOPED LENGTH BETWEEN MULTIPLE JOINTS IN AN ASSEMBLY SPANS LESS THAN OR EQUAL TO 4 FEET IN LENGTH, SUPPORT THE ASSEMBLY WITHIN THE 4 FOOT LENGTH AND WITHIN 18 INCHES OF THE EXTREME END JOINTS.
 - c. PROVIDE SUPPORT AT THE BASE OF THE VERTICAL PIPING AND AT A MAXIMUM VERTICAL SPACING OF EVERY FLOOR BUT NOT TO EXCEED 15 FEET VERTICALLY.

PHASING OF CONSTRUCTION

- A. THIS PROJECT IS BEING PHASED TO MAINTAIN BUSINESS OPERATIONS. COORDINATE PLUMBING WORK IN CONJUNCTION WITH GENERAL CONTRACTOR AND ALL OTHER TRADES AND PLAN WORK ACCORDINGLY TO MINIMIZE DISRUPTION OF PLUMBING SYSTEMS SERVING OCCUPIED AREAS.
- B. PLUMBING CONTRACTOR SHALL INSTALL PARTIAL NEW SYSTEMS, VALVES, FIXTURES, OR EQUIPMENT PRIOR TO DEMOLITION OF THE NEXT PHASE (IF REQUIRED) TO MINIMIZE DISRUPTIONS OF PLUMBING SYSTEMS SERVING OCCUPIED AREAS.
- C. PLUMBING CONTRACTOR SHALL REVIEW THE PHASING REQUIREMENTS INDICATED IN THE BID DOCUMENTS AND/OR CONSULT THE CONSTRUCTION MANAGER. OBTAIN CLARIFICATIONS OF ANY WORK REQUIRED OF NORMAL WORKING HOURS PRIOR TO BID. SUBMIT ALL WRITTEN CLARIFICATION REQUESTS TO ARCHITECT/ENGINEER PRIOR TO BID IN ALL INSTANCES.
- D. PLUMBING CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR, OWNER'S REPRESENTATIVE, AND ALL OTHER TRADES TO ENSURE THAT THE LOCATIONS OF STORED MATERIALS (AND PATHS OF TRAVEL USED TO TRANSFER MATERIALS TO AND FROM THE ACTIVE AND STAGED WORK AREAS) ARE ACCEPTABLE.



Farnsworth GROUP

2211 W. BRADLEY AVENUE
CHAMPAIGN, ILLINOIS 61821
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PROJECT:
THE CITY OF MARSHALL

Marshall Public Library Phase II Renovations

612 Archer Avenue Marshall, IL
62441

DATE: 11/09/2023

DESIGNED: SHR

DRAWN: SHR

REVIEWED: JPH

SHEET TITLE:

SPECIFICATIONS

SHEET NUMBER:

P0.2

PROJECT NO.: 0230585.00



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FIRST FLOOR DWV PLUMBING PLAN

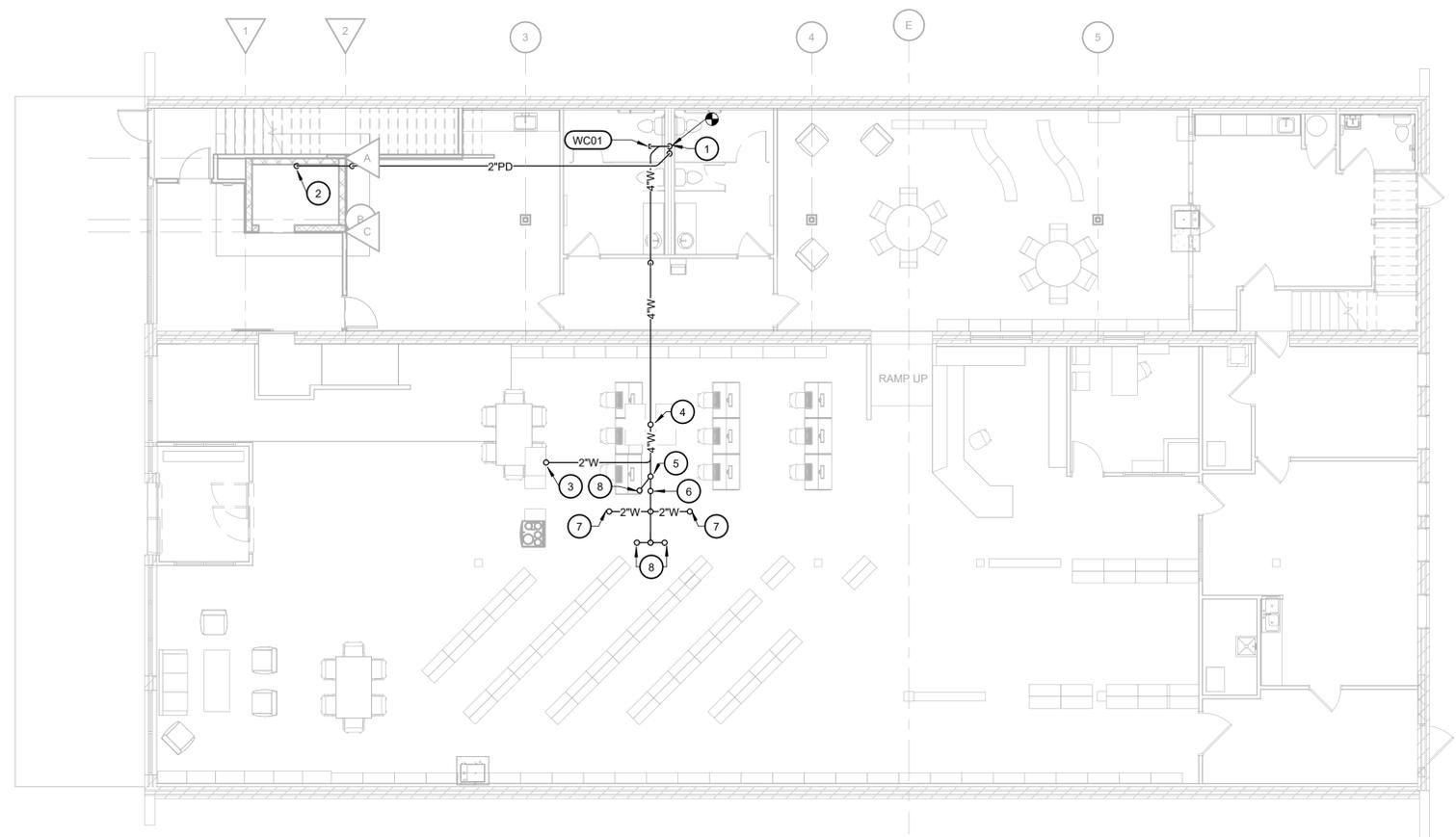
SHEET NUMBER:

P1.1

PROJECT NO.: 0230585.00

KEYNOTES #

- 1 NEW 4" WASTE PIPING DOWN. NEW WASTE PIPING SHALL CONNECT TO EXISTING 4" WASTE PIPING BELOW FLOOR. PROVIDE AND INSTALL 4" HUB DRAIN WITH AN AIR GAP FITTING ON NEW RISER. HUB DRAIN SHALL BE TRAPPED AND VENTED. PROVIDE INSTALL WALL MOUNTED ACCESS PANEL.
- 2 NEW 2" PUMP DISCHARGE PIPING DOWN TO SP-1 IN BOTTOM OF ELEVATOR SHAFT.
- 3 2" UP TO FUTURE SINK.
- 4 2" UP TO FUTURE LAVATORIES.
- 5 2" VENT UP.
- 6 2" WASTE UP TO FUTURE URINAL.
- 7 2" WASTE UP TO FLOOR DRAIN.
- 8 4" WASTE UP TO FUTURE WATER CLOSETS.



1 FIRST FLOOR DRAIN WASTE AND VENT PLAN
SCALE: 1/8" = 1'-0"



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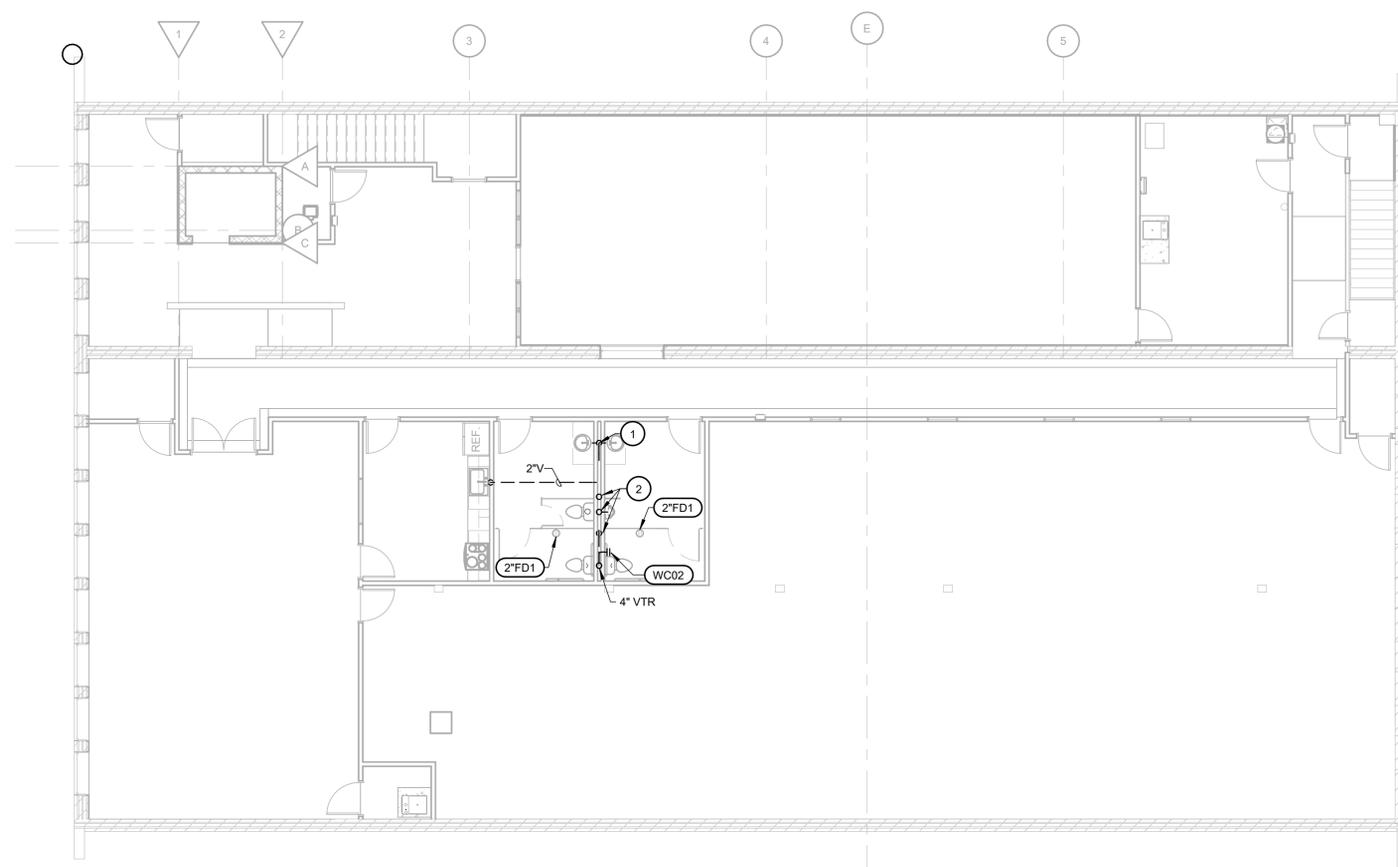
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KEYNOTES #

- 1 2" VENT UP.
- 2 2" VENT UP.



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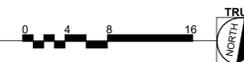
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**SECOND FLOOR DWV
PLUMBING PLAN**

SHEET NUMBER:

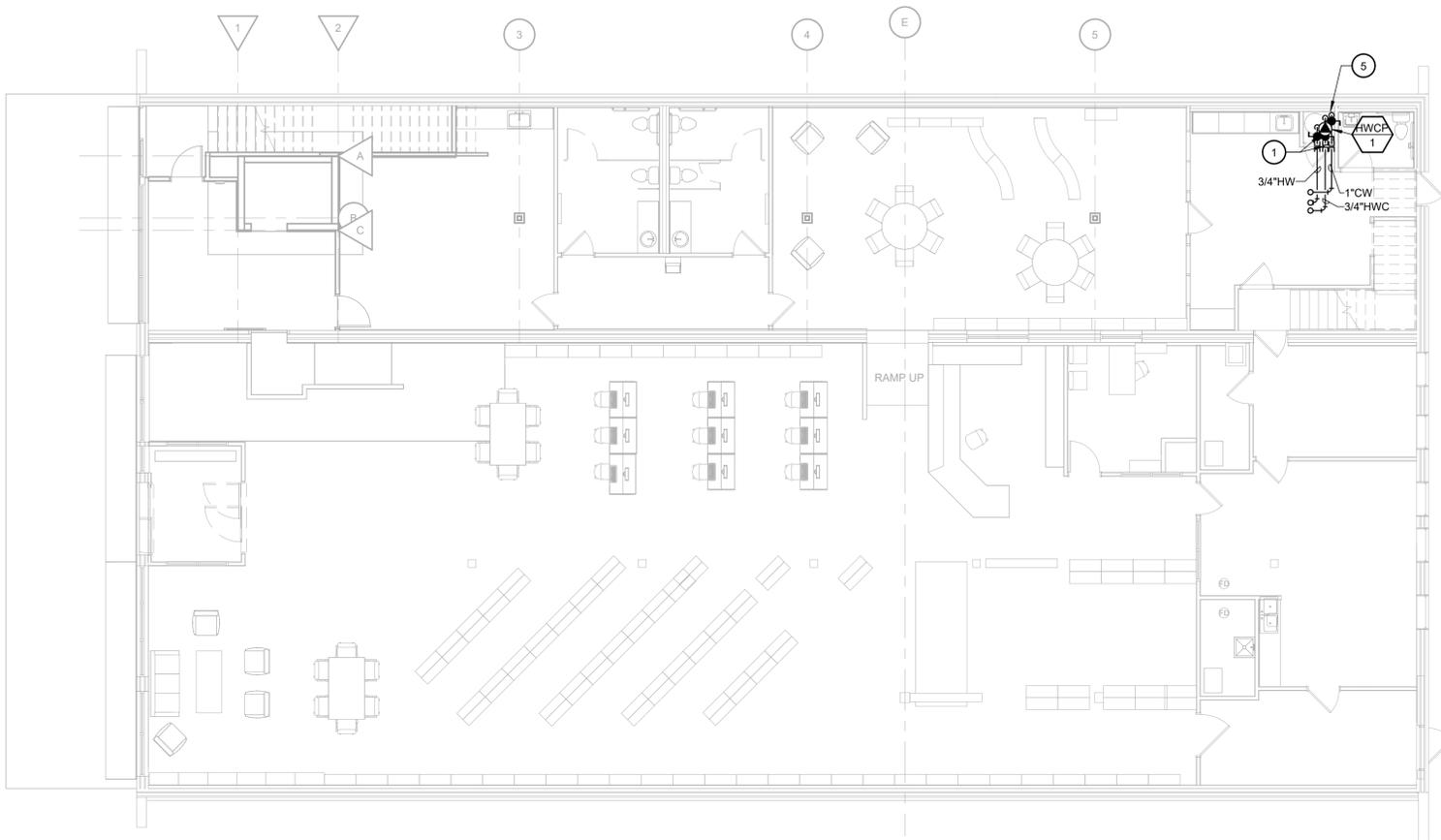
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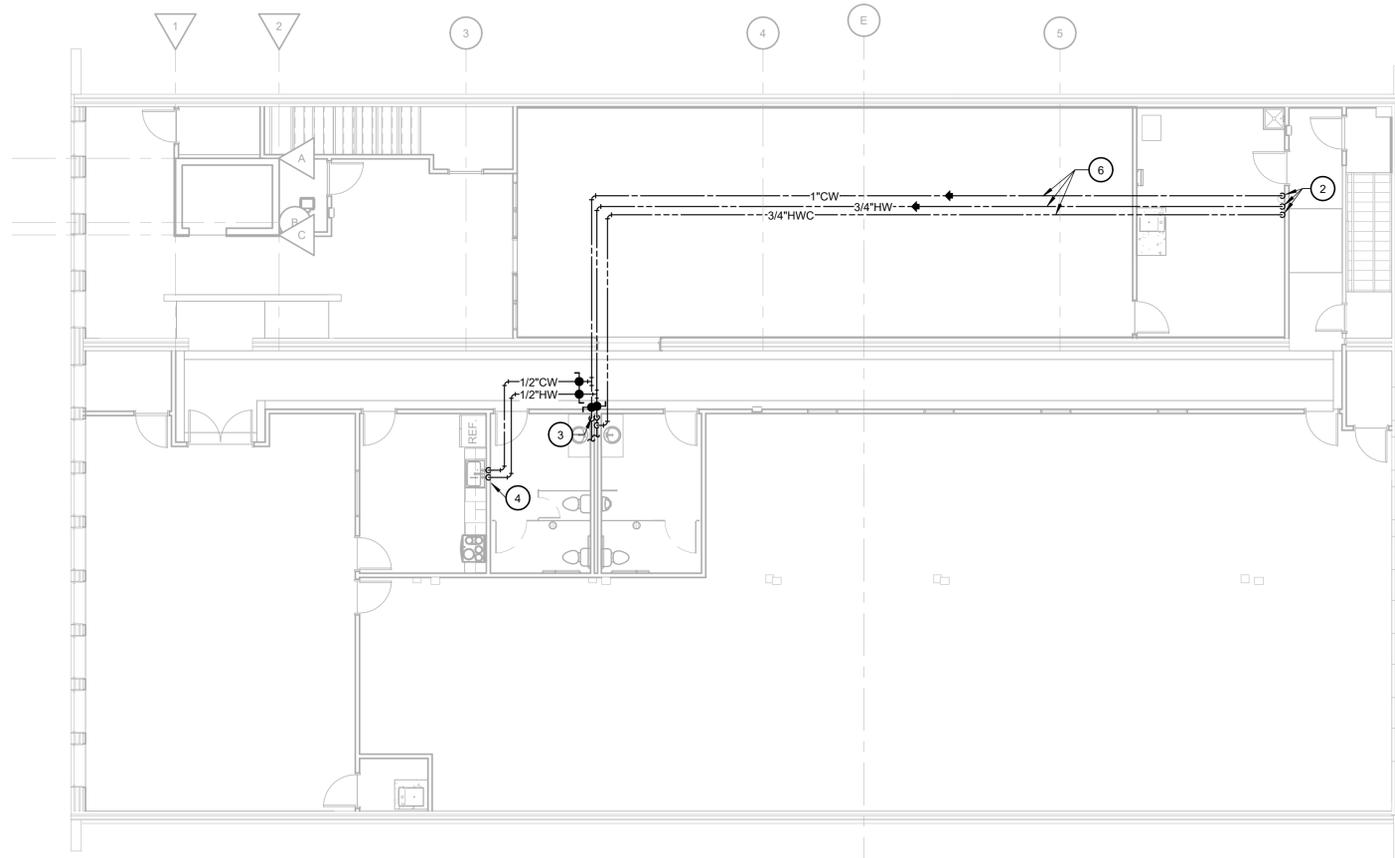
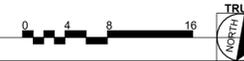
1 SECOND FLOOR DRAIN WASTE AND VENT PLAN
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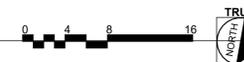
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1 FIRST FLOOR DOMESTIC PLUMBING PLAN
SCALE: 1/8" = 1'-0"



2 SECOND FLOOR DOMESTIC PLUMBING PLAN
SCALE: 1/8" = 1'-0"



KEYNOTES #

- 1 INTSTALL CIRC. PUMP, SHUTOFF VALVES AND CAP END OF PIPE. PIPE TO BE CONNECTED ONLY WHEN FUTURE ADDITION OF RESTROOM FIXTURES AND KITCHEN FIXTURES IN SECOND FLOOR ARE INSTALLED IN FUTURE PHASE.
- 2 1" CW DOWN TO FIRST FLOOR. 3/4" HW DOWN TO FIRST FLOOR. 3/4" HWC DOWN TO FIRST FLOOR.
- 3 3/4" HW & CW DOWN. EXTEND PIPE TO FUTURE PLUMBING FIXTURE LOCATIONS. CAP WITH SHUTOFF VALVES.
- 4 1/2" HW&CW DOWN IN WALL. CAP WITH SHUTOFF OFF VALVES FOR FUTURE KITCHEN SINK.
- 5 CONNECT 1" CW INTO EXISTING 1" WATER SERVICE IN CLOSET.
- 6 NEW PIPING ABOVE 12' ROOF JOINT SPACE.



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DOMESTIC PLUMBING PLAN

SHEET NUMBER:

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GENERAL NOTES

- A. COORDINATE ROOF WARRANTIES WITH OWNER PRIOR TO ROOF PENETRATION WORK.
- B.

KEYNOTES (#)

- 1 NEW 1" NATURAL GAS PIPE DOWN SIDE OF BUILDING TO CONNECT TO EXISTING PIPE NATURAL GAS PIPING.
- 2 ROUTE GAS PIPING AND REFRIGERANT PIPING THROUGH ONE PIPE CURB DOWN TO GF.
- 3 4" VENT THROUGH ROOF.
- 4 SUPPORT PIPING ON ROOF UTILIZING FREE-FLOATING, PRE-MANUFACTURED PVC PIPE SUPPORTS EQUIVALENT TO MIRRO PILLOW BLOCK SERIES WITH 12X12 SUPPORT. SPACE SUPPORTS BASED ON PIPE SIZE AS REQUIRED AND ADJACENT TO EACH VALVE OR CHANGE IN DIRECTION.

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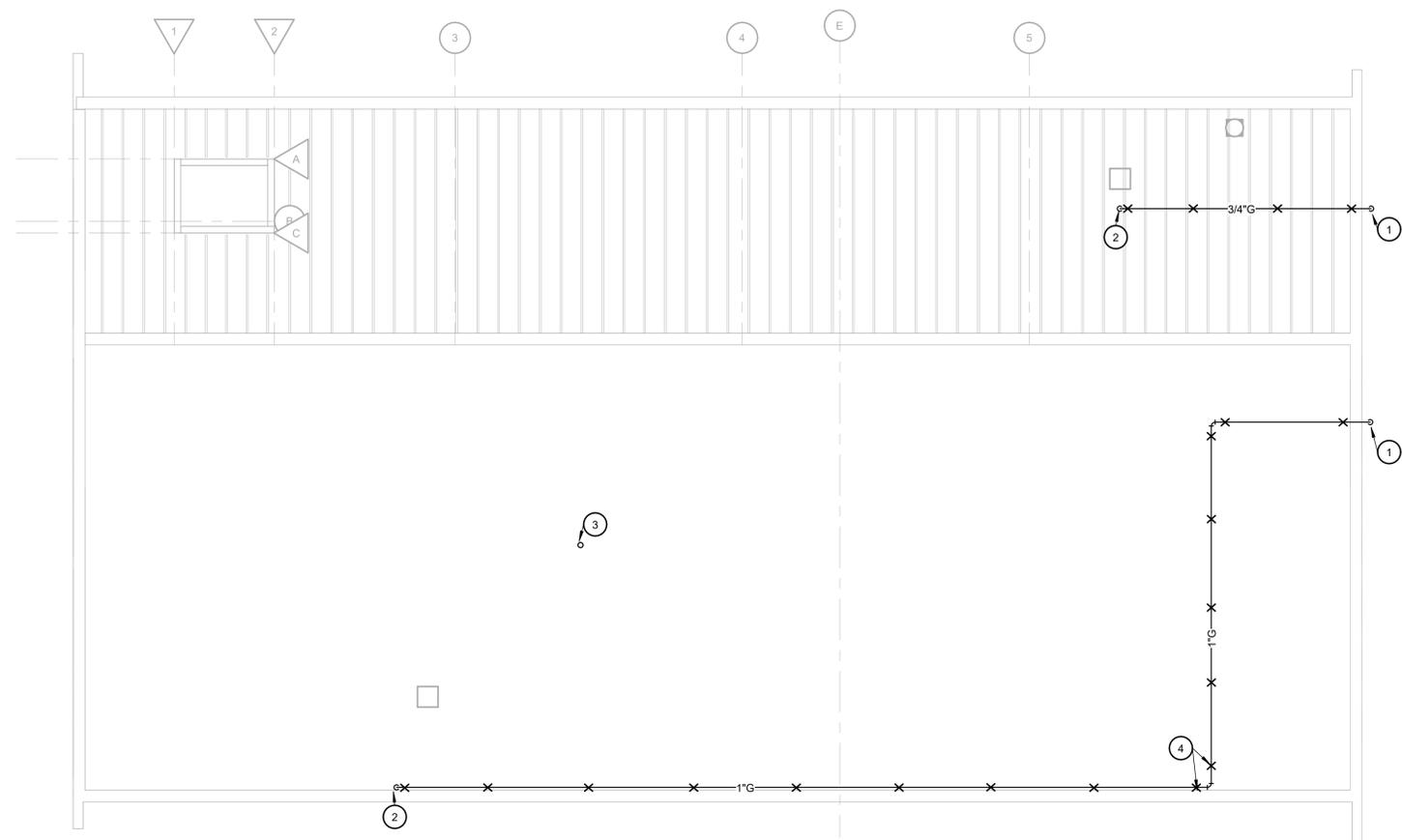
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**ROOF PLUMBING
PLAN**

SHEET NUMBER:

P2.2

PROJECT NO.: 0230585.00



1 **ROOF PLUMBING PLAN**
SCALE: 1/8" = 1'-0"



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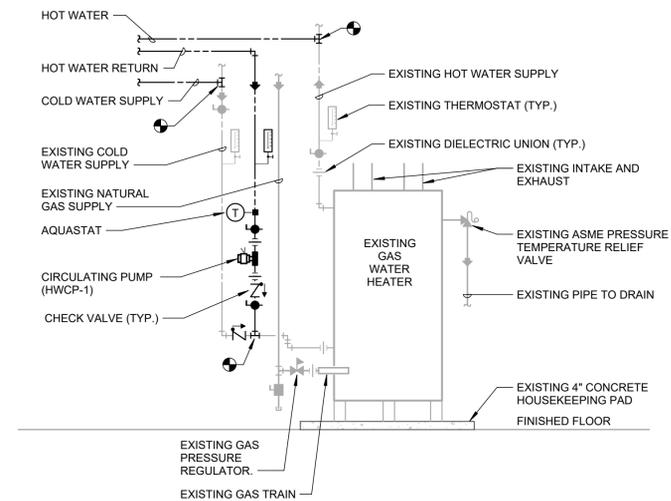


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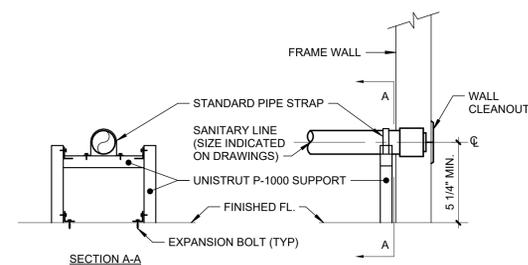
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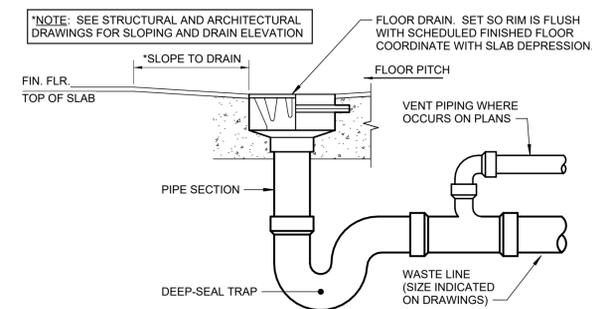
ISSUE:
DATE: DESCRIPTION:



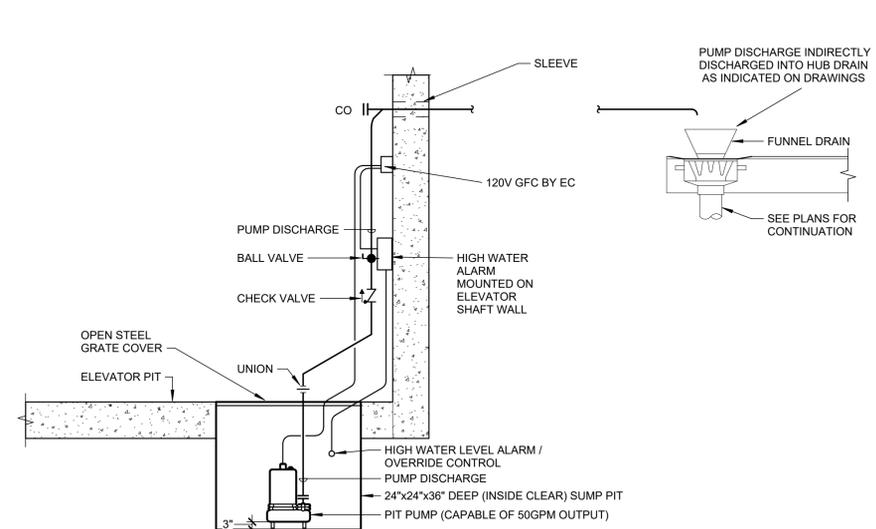
4 GAS WATER HEATER
SCALE: No Scale



3 WALL CLEANOUT
SCALE: No Scale



2 FLOOR DRAIN
SCALE: No Scale



1 ELEVATOR SUMP PUMP
SCALE: No Scale

Permit / Bid Set

PROJECT:
THE CITY OF MARSHALL

Marshall Public Library Phase II Renovations

612 Archer Avenue Marshall, IL
62441

DATE: 11/09/2023

DESIGNED: SHR

DRAWN: SHR

REVIEWED: JH

SHEET TITLE:

DIAGRAMS

SHEET NUMBER:

P5.1

PROJECT NO.: 0230585.00



Farnsworth GROUP

2211 W. BRADLEY AVENUE
CHAMPAIGN, ILLINOIS 61821
(217) 352-7408 / info@f-w.com

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ISSUE:
DATE: DESCRIPTION:

ELEVATOR SUMP PUMP SCHEDULE											
PLAN MARK	MANUFACTURE	PUMP MODEL / SYSTEM	LOCATION	GPM	FEET HEAD	ELECTRICAL DATA			PHYSICAL DATA (BASIN)		REMARKS
						HP	V/PH	AMPS	DIA. (IN.)	DEPTH (IN.)	
SP-1	LIBERTY	ELV290	ELEVATOR PIT	55	18	.75	120/1	10.4	24	24	1-3
NOTES: 1. PROVIDE SUMP PUMP SCHEDULED ABOVE OR APPROVED EQUIVALENT BY ZOELLER, WEIL, GRUNDFOS. 2. PROVIDE WITH MERCURY-FREE, FULLY ADJUSTABLE WIDE ANGLE FLOAT AND 10' CORD FACTORY SET FOR 13" ON LEVEL AND 7" OFF LEVEL. 3. HIGH WATER ALARM SHALL BE EQUIVALENT TO LIBERTY No.ALM-2-1 HAVING 115V PLUG IN OPERATION, 9-VOLT BATTERY BACKUP, 86 DECIBEL HORN, RED ALARM LIGHT, LOW BATTERY CHIRP, AUTOMATIC RESET AND FLOAT WITH 10' CORD.											

CLEANOUT SCHEDULE			
PLAN MARK	MAKE/MODEL	LOCATION	REMARKS
WCO1	ZURN CO2413-PVC/ CO2530-VP SIOUX CHIEF JRS PRODUCTS	1st FLOOR RESTROOM	WALL CLEANOUT, PVC BODY, WITH WATERTIGHT ABS TAPERED THREADED PLUG, AND ROUND, SMOOTH STAINLESS STEEL ACCESS COVER WITH VANDAL PROOF SECURING SCREW.
WCO2	ZURN CO2413-PVC/ CO2530-VP SIOUX CHIEF JRS PRODUCTS	2ND FLOOR RESTROOM	WALL CLEANOUT, PVC BODY, WITH WATERTIGHT ABS TAPERED THREADED PLUG, AND ROUND, SMOOTH STAINLESS STEEL ACCESS COVER WITH VANDAL PROOF SECURING SCREW.

DRAIN SCHEDULE		
PLAN MARK	MAKE/MODEL	DESCRIPTION REMARKS
FD1	ZURN FD2280 SIOUX CHIEF JRS PRODUCTS	PVC BODY WITH STEEL-THREADED INSERTS, 5" DIAMETER NICKEL FRAME AND GRATE WITH VANDAL PROOF STRAINER, SEPARATE DEEP-SEAL TRAP.

CIRCULATING PUMP SCHEDULE											
PLAN MARK	MANUFACTURER	MODEL	LOCATION	MOUNTING	GPM	HEAD (FEET)	MOTOR RPM	ELECTRICAL DATA			REMARKS
								HP	V/PH	FLA	
HWCP-1	GRUNDFOS	UP 15-55SFC	SEE PLANS	IN-LINE	6	13	3250	0.12	120/1	0.43	SEE NOTES
NOTES: 1. PROVIDE WITH PIPE MOUNTED AQUASTAT WITH ADJUSTABLE TEMPERATURE CONTROL HONEYWELL MODEL L6006C OR APPROVED EQUIVALENT. 2. MOUNT PUMP POSITION PER MANUFACTURER'S WRITTEN INSTALLATION REQUIREMENTS. 3. INTERNALS TO BE RATED FOR POTABLE WATER USE. 4. 3-SPEED CIRCULATOR: SET AT SPEED 3 5. MANUFACTURER AS SCHEDULED ABOVE OR APPROVED EQUIVALENT BY TACO, BELL & GOSSETT.											

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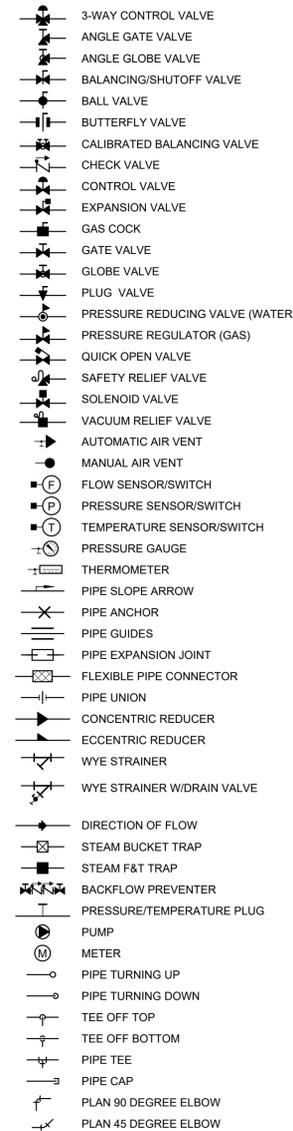
P6.1

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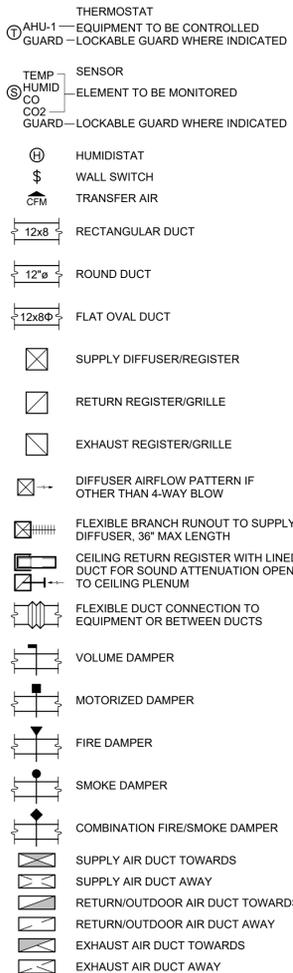
SYMBOLS LEGEND

NOTE: NOT ALL SYMBOLS ARE USED IN CONSTRUCTION DOCUMENTS

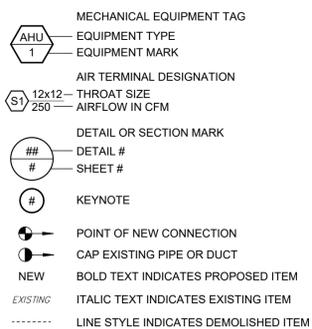
HYDRONIC



VENTILATION



GENERAL



PIPING SYSTEM (SOLID LINE)

BD	BOILER BLOW DOWN
CD	CONDENSATE DRAIN
CHS	CHILLED WATER SUPPLY
CWS	CONDENSER WATER SUPPLY
HCWS	DUAL TEMPERATURE SUPPLY
HPS	HIGH PRESSURE STEAM
HRS	HEAT RECOVERY SUPPLY
HTWS	HIGH TEMP WATER SUPPLY
HWS	HOT WATER SUPPLY
LPS	LOW PRESSURE STEAM
LS	LOOP SUPPLY
MPS	MEDIUM PRESSURE STEAM
PD	PUMP DISCHARGE
RHG	REFRIGERANT HOT GAS
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION

PIPING SYSTEM (DASHED LINE)

CHR	CHILLED WATER RETURN
CWR	CONDENSER WATER RETURN
HCWR	DUAL TEMPERATURE RETURN
HPR	HIGH PRESSURE STEAM CONDENSATE RETURN
HRR	HEAT RECOVERY RETURN
HTWR	HIGH TEMP WATER RETURN
HWR	HOT WATER RETURN
LPR	LOW PRESSURE STEAM CONDENSATE RETURN
LR	LOOP RETURN
MPR	MEDIUM PRESSURE STEAM CONDENSATE RETURN

ABBREVIATIONS

AC	ABOVE CEILING/AIR CONDITIONER	GRH	GAS RADIANT HEATER
ACC	AIR COOLED CONDENSER	GS	GLYCOL SUPPLY
AF	AIR FILTER	GUH	GAS UNIT HEATER
AFF	ABOVE FINISHED FLOOR	HU	HUMIDIFIER
AHU	AIR HANDLING UNIT	HC	HEATING COIL
AL	ALUMINUM	HCWR	DUAL TEMPERATURE RETURN
AMS	AIR MEASURING STATION	HCWS	DUAL TEMPERATURE SUPPLY
AS	AIR SEPARATOR	HP	HEAT PUMP
AV	AUTOMATIC AIR VENT	HPR	HIGH PRESSURE STEAM RETURN
B	BOILER	HPS	HIGH PRESSURE STEAM SUPPLY
BAS	BUILDING AUTOMATION SYSTEM	HRC	HEAT RECOVERY COIL
BDD	BACKDRAFT DAMPER	HRV	HEAT RECOVERY VENTILATOR (SENSIBLE)
BFC	BELOW FINISHED CEILING	HS	HUMIDITY SENSOR
BFP	BACKFLOW PREVENTION DEVICE	HWP	HOT WATER PUMP
BJ	BETWEEN JOISTS	HWR	HOT WATER RETURN
BOD	BOTTOM OF DUCT	HWS	HOT WATER SUPPLY
BOP	BOTTOM OF PIPE	HX	HEAT EXCHANGER
BTUH	BRITISH THERMAL UNITS PER HOUR	ISP	INTERNAL STATIC PRESSURE
CA	COMPRESSED AIR	KH	KITCHEN HOOD - COMMERCIAL
CBS	COUNTER BALANCED SHUTTER	L	LOUVER
CC	COOLING COIL	LPR	LOW PRESSURE STEAM RETURN
CF	CEILING / CIRCULATING FAN	LPS	LOW PRESSURE STEAM SUPPLY
CFM	CUBIC FEET PER MINUTE	MA	MIXED AIR
CH	CHILLER	MAU	MAKEUP AIR UNIT
CHP	CHILLED WATER PUMP	MBH	THOUSANDS OF BTU PER HOUR
CHR	CHILLED WATER RETURN	MC	MECHANICAL CONTRACTOR
CHS	CHILLED WATER SUPPLY	MD	MOTORIZED DAMPER
CNV	CONVECTOR	MS	MOTORIZED SHUTTER
COND	CONDENSATE	NTS	NOT TO SCALE
CP	CONDENSATE PUMP	OA	OUTDOOR AIR
CRAC	COMPUTER ROOM AIR CONDITIONER	OBD	OPPOSED BLADE DAMPER
CT	COOLING TOWER	P	PUMP
CU	CONDENSING UNIT	PC	PLUMBING CONTRACTOR
CUH	CABINET UNIT HEATER	PBD	PARALLEL BLADE DAMPER
CV	CONTROL VALVE	PDH	POOL ROOM DEHUMIDIFIER
CW	DOMESTIC COLD WATER	PRV	PRESSURE RELIEF VALVE
CWP	CONDENSER WATER PUMP	PS	PRESSURE SWITCH
CWR	CONDENSER WATER RETURN	PSI	POUNDS PER SQUARE INCH
CWS	CONDENSER WATER SUPPLY	PTAC	PACKAGED TERMINAL AIR CONDITIONER
DAC	DOOR AIR CURTAIN	RA	RETURN AIR
DC	DRY COOLER	RF	RETURN AIR FAN
DH	DEHUMIDIFIER	RG	RETURN GRILLE (LESS DAMPER)
DN	DOWN	RH	ROOF HOOD
DOAS	DEDICATED OUTDOOR AIR SYSTEM	RHC	REHEAT COIL
DP	DIFFERENTIAL PRESSURE	RLFA	RELIEF AIR
DS	DUCT SILENCER	RP	RADIANT PANEL
DSU	DUCTLESS SPLIT UNIT	RPZ	REDUCED PRESSURE BFP
DX	DX COOLING COIL	RR	RETURN REGISTER (WITH DAMPER)
EA	EXHAUST AIR	RTU	ROOFTOP AIR HANDLING UNIT
EBB	ELECTRIC BASEBOARD HEATER	SA	SUPPLY AIR
EC	ELECTRICAL CONTRACTOR	SAS	SELF-ACTING SHUTTER
EF	EXHAUST FAN	SD	SUPPLY DIFFUSER/SMOKE DAMPER
EG	EXHAUST GRILLE (LESS DAMPER)	SF	SUPPLY FAN / SQUARE FOOT
EHC	ELECTRIC HEATING COIL	SFD	SMOKE/FIRE DAMPER
EL	ELEVATION	SG	SUPPLY GRILLE
ER	EXHAUST REGISTER	SR	SUPPLY REGISTER
ERP	ELECTRIC RADIANT PANEL	TCAC	TEMP. CONTROL AIR COMPRESSOR
ERV	ENERGY RECOVERY VENTILATOR	TCAD	TEMP. CONTROL AIR DRYER
ESP	EXTERNAL STATIC PRESSURE	TDV	TRIPLE DUTY VALVE
ET	EXPANSION TANK	TFA	TO FLOOR ABOVE
EUH	ELECTRIC UNIT HEATER	TFB	TO FLOOR BELOW
FA	FRESH AIR	TJ	THROUGH JOISTS
FCU	FAN COIL UNIT	TOD	TOP OF DUCT
FD	FIRE DAMPER	TOP	TOP OF PIPE
FDC	FLEXIBLE DUCT CONNECTION	TSP	TOTAL STATIC PRESSURE
FFA	FROM FLOOR ABOVE	UC	UNIT COOLER
FFB	FROM FLOOR BELOW	UFD	UNDERFLOOR DUCT
FPC	FLEXIBLE PIPE CONNECTION	UFT	UNDERFLOOR FAN TERMINAL
FPT	FAN POWERED AIR TERMINAL	UH	UNIT HEATER
FT	FINNED TUBE RADIATION	UV	UNIT VENTILATOR
GC	GENERAL CONTRACTOR	VAV	VARIABLE AIR VOLUME TERMINAL
GF	GAS FURNACE	VD	VOLUME DAMPER
GH	GRAVITY INTAKE HOOD	VFD	VARIABLE FREQUENCY DRIVE
GPM	GALLONS PER MINUTE	VRP	VERTICAL RADIANT PANEL
GR	GLYCOL RETURN	WAC	WINDOW / WALL AIR CONDITIONER

GENERAL NOTES

COMMON REQUIREMENTS

- THIS FACILITY HAS BEEN DESIGNATED A "SMOKE-FREE" ENVIRONMENT. NO MECHANICAL VENTILATION PROVISIONS HAVE BEEN MADE TO ACCOMMODATE TOBACCO USAGE BY THE BUILDING OCCUPANTS
- ALL MECHANICAL SYSTEMS SHALL BE INSTALLED TO THE SATISFACTION OF THE LOCAL CODE AUTHORITIES HAVING JURISDICTION
- EVERY ATTEMPT HAS BEEN MADE TO COORDINATE THE ROUTING OF DUCTWORK WITHIN THE CLEAR STRUCTURAL SPACE. ACTUAL LOCATION OF ALL STRUCTURAL MEMBERS HOWEVER CAN NOT BE DETERMINED UNTIL FABRICATION DRAWINGS ARE SUBMITTED FOR REVIEW. WHERE POSSIBLE, REFRAIN FROM PREFABRICATING DUCTWORK DESIGNATED FOR INSTALLATION UNTIL FRAMING IS IN PLACE AND ACTUAL STRUCTURAL CONDITIONS CAN BE FIELD VERIFIED.

MECHANICAL EQUIPMENT INSTALLATION

- INSTALL EQUIPMENT TO ALLOW MAXIMUM POSSIBLE HEADROOM UNLESS SPECIFIC MOUNTING HEIGHTS ARE INDICATED
- INSTALL EQUIPMENT LEVEL AND PLUMB, PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS IN EXPOSED INTERIOR SPACES, UNLESS OTHERWISE INDICATED
- INSTALL HVAC EQUIPMENT TO FACILITATE SERVICE, MAINTENANCE, AND REPAIR OR REPLACEMENT OF COMPONENTS. CONNECT EQUIPMENT FOR EASE OF REMOVAL, WITH MINIMUM INTERFERENCE TO OTHER INSTALLATIONS
- ALL MECHANICAL EQUIPMENT WITH THE EXCEPTION OF AIR HANDLING UNITS, SUPPORTED FROM FLOOR STRUCTURE SHALL BE MOUNTED ON 4" THICK CONCRETE HOUSEKEEPING PADS UNLESS NOTED OTHERWISE. AIR-HANDLING UNITS SHALL BE MOUNTED ON 6" THICK CONCRETE HOUSEKEEPING PADS TO ACCOMMODATE PROPER TRAPPING OF THE CONDENSATE DRAIN
- AIR FILTERS SHALL BE REPLACED IN ALL AIR HANDLING EQUIPMENT EMPLOYING SUCH PRIOR TO FINAL COMPLETION AND OWNER OCCUPANCY
- THE INSTALLING CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR ALL MECHANICAL EQUIPMENT PUT INTO OPERATION PRIOR TO THE INSTALLATION OF A WORKING CONTROL SYSTEM, TESTING, AND BALANCING, AND SUBSTANTIAL COMPLETION. ALL RETURN AND EXHAUST DUCT OPENINGS SHALL BE COVERED WITH ROLL TYPE FILTER MEDIA DURING SUCH TEMPORARY OPERATION. OPERATION OF THE MECHANICAL EQUIPMENT PRIOR TO FINAL COMPLETION SHALL NOT IMPACT THE EQUIPMENT WARRANTY. MINIMUM 1-YEAR FROM SUBSTANTIAL COMPLETION UNLESS SPECIFIED OTHERWISE
- PROVIDE FLEXIBLE DUCT CONNECTION BETWEEN MOTOR DRIVEN MECHANICAL UNITS AND SHEET METAL SUPPLY, OUTDOOR AIR, EXHAUST, AND/OR RETURN AIR DUCTWORK CONNECTIONS
- PROVIDE FLEXIBLE PIPE CONNECTION BETWEEN MOTOR DRIVEN MECHANICAL UNITS AND CONNECTING PIPING
- BASIS OF DESIGN MECHANICAL EQUIPMENT IS AS SCHEDULED ON THE DRAWINGS. INSTALLING CONTRACTOR ASSUMES RESPONSIBILITY FOR COORDINATING PHYSICAL SPACE REQUIREMENTS OF EQUIVALENT CAPACITY MECHANICAL EQUIPMENT DEEMED ACCEPTABLE BY THE ENGINEER
- MECHANICAL EQUIPMENT FACTORY FINISH DAMAGED DURING THE COURSE OF CONSTRUCTION SHALL BE RESTORED TO ORIGINAL CONDITION PRIOR TO FINAL ACCEPTANCE

DUCTWORK REQUIREMENTS

- DUCTWORK IS SHOWN IN SCHEMATIC FORM. ALL REQUIRED DUCT RISERS AND DROPS TO ALLOW GENERAL ROUTING DEPICTED MAY NOT BE SHOWN. PROVIDE OFFSETS AS REQUIRED TO MEET SPACE REQUIREMENTS AND TO AVOID INTERFERENCE WITH OTHER TRADES AND FIELD CONDITIONS. EXACT LOCATION OF THE DUCTWORK MAY VARY ACCORDING TO THE COORDINATED SPACE REQUIREMENTS. EACH TRADE SHALL BE TOTALLY RESPONSIBLE FOR COORDINATION WITH OTHER TRADES. NOTIFY ENGINEER OF CONDITIONS REPRESENTING SIGNIFICANT CHANGES TO THE DESIGNED ROUTING
- COMPLY WITH NFPA 90A, "INSTALLATION OF AIR CONDITIONING AND VENTILATING SYSTEMS," UNLESS OTHERWISE INDICATED
- COMPLY WITH NFPA 90B, "INSTALLATION OF WARM AIR HEATING AND AIR CONDITIONING SYSTEMS," UNLESS OTHERWISE INDICATED
- FABRICATE RECTANGULAR DUCTS, ELBOWS, TRANSITIONS, OFFSETS, BRANCH CONNECTIONS, AND OTHER CONSTRUCTION WITH GALVANIZED, SHEET STEEL, ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS--METAL AND FLEXIBLE." COMPLY WITH REQUIREMENTS FOR METAL THICKNESS, REINFORCING TYPES AND INTERVALS, TIE-ROD APPLICATIONS, AND JOINT TYPES AND INTERVALS
- COORDINATE SIZE, QUANTITY, AND LOCATION OF ALL OPENINGS REQUIRED FOR DUCT AND PIPE PENETRATIONS THROUGH WALLS, FLOORS, AND ROOFS, WITH CONTRACTOR RESPONSIBLE FOR ROUGH FRAMING. COORDINATE LOCATION OF AIR INTAKES WITH EXHAUST AND PLUMBING VENTS SO THAT INTAKES ARE A MINIMUM OF 10 FEET FROM EXHAUST OPENINGS OR PLUMBING VENTS
- INSTALL DUCTS IN LONGEST LENGTH POSSIBLE AND FEWEST POSSIBLE JOINTS. INSTALL FABRICATED FITTINGS FOR CHANGES IN DIRECTIONS, CHANGES IN SIZE AND SHAPE, AND CONNECTIONS
- INSTALL DUCTS, UNLESS OTHERWISE INDICATED, VERTICALLY AND HORIZONTALLY, PARALLEL AND PERPENDICULAR TO BUILDING LINES; AVOID DIAGONAL RUNS UNLESS SPECIFICALLY INDICATED ON DRAWINGS
- REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF CEILING MOUNTED DEVICES. COORDINATE MECHANICAL CEILING DEVICES SUCH AS DIFFUSERS AND REGISTERS WITH LIGHT FIXTURES, SPEAKERS, SPRINKLER HEADS, ETC.
- ELECTRICAL EQUIPMENT SPACES: ROUTE DUCTWORK TO AVOID PASSING THROUGH TRANSFORMER VAULTS AND ELECTRICAL EQUIPMENT SPACES AND ENCLOSURES. AVOID ROUTING DUCTWORK DIRECTLY ABOVE ELECTRICAL EQUIPMENT UNLESS SPECIFICALLY INDICATED ON THE MECHANICAL DRAWINGS
- NON-FIRE-RATED PARTITION PENETRATIONS: WHERE DUCTS PASS THROUGH INTERIOR PARTITIONS AND ARE EXPOSED TO VIEW IN MECHANICAL ROOMS, CONCEAL SPACE BETWEEN CONSTRUCTION OPENING AND DUCT OR DUCT INSULATION WITH SHEET METAL FLANGES OF SAME METAL THICKNESS AS DUCT. OVERLAP OPENING ON FOUR SIDES BY AT LEAST 1-1/2 INCHES UNLESS INDICATED OTHERWISE
- FIRE-RATED PARTITION PENETRATIONS: WHERE DUCTS PASS THROUGH INTERIOR PARTITIONS, INSTALL APPROPRIATELY RATED FIRE DAMPER. FIRE DAMPER INSTALLATION MUST STRICTLY ADHERE TO MANUFACTURER'S WRITTEN INSTRUCTIONS
- PROVIDE MANUAL VOLUME-CONTROL BALANCING DAMPER AT ALL BRANCH DUCTS AND AT ALL OTHER LOCATIONS REQUIRED FOR A COMPLETE AND BALANCEABLE AIR DISTRIBUTION SYSTEM
- BALANCE ENTIRE AIR DISTRIBUTION SYSTEM TO AIRFLOW QUANTITIES INDICATED ON MECHANICAL DRAWINGS
- FLEXIBLE DUCTWORK SHALL BE ALLOWED ONLY IN POSITIVE PRESSURE APPLICATIONS AT SUPPLY BRANCH RUNOUTS TO DIFFUSERS ABOVE ACCESSIBLE CEILINGS. FLEXIBLE DUCTWORK SHALL NOT EXCEED 36" IN LENGTH. 90 DEGREE TURNS SHALL ONLY BE ALLOWED IF RETAINING BANDS EQUAL TO THERMAFLEX "FLEX-FLOW" ARE EMPLOYED. UNDER NO CIRCUMSTANCES SHALL FLEXIBLE DUCTWORK BE ALLOWED IN NEGATIVE PRESSURE APPLICATIONS

PIPING SYSTEM REQUIREMENTS

- DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PIPING SYSTEMS. INDICATED LOCATIONS AND ARRANGEMENTS WERE USED TO SIZE PIPE AND CALCULATE FRICTION LOSS, EXPANSION, PUMP SIZING, AND OTHER DESIGN CONSIDERATIONS. INSTALL PIPING AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED BY ENGINEER
- DELIVER PIPES AND TUBES WITH FACTORY-APPLIED END CAPS. MAINTAIN END CAPS THROUGH SHIPPING, STORAGE, AND HANDLING TO PREVENT PIPE END DAMAGE AND TO PREVENT ENTRANCE OF DIRT, DEBRIS, AND MOISTURE
- COORDINATE PIPE ROUTINGS, CHASES, AND OPENINGS IN BUILDING STRUCTURE WITH ALL TRADES DURING PROGRESS OF CONSTRUCTION. COORDINATE INSTALLATION OF REQUIRED SUPPORTING DEVICES AND SET SLEEVES IN POURED-IN-PLACE CONCRETE AND OTHER STRUCTURAL COMPONENTS AS THEY ARE CONSTRUCTED
- INSTALL PIPING IN CONCEALED LOCATIONS, UNLESS OTHERWISE INDICATED AND EXCEPT IN EQUIPMENT ROOMS AND SERVICE AREAS. INSTALL PIPING INDICATED TO BE EXPOSED AND PIPING IN EQUIPMENT ROOMS AND SERVICE AREAS AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE PROHIBITED UNLESS SPECIFICALLY INDICATED OTHERWISE
- INSTALL PIPING ABOVE ACCESSIBLE CEILINGS TO ALLOW SUFFICIENT SPACE FOR CEILING PANEL REMOVAL
- INSTALL PIPING TO PERMIT VALVE SERVICING
- INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS
- INSTALL PIPING TO ALLOW APPLICATION OF INSULATION
- INSTALL ESCUTCHEONS FOR PENETRATIONS OF FINISHED WALLS, CEILINGS, AND FLOORS
- SLEEVES ARE NOT REQUIRED FOR CORE-DRILLED HOLES.
- PERMANENT SLEEVES ARE NOT REQUIRED FOR HOLES FORMED BY REMOVABLE PE SLEEVES
- INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE AND MASONRY WALLS AND CONCRETE FLOOR AND ROOF SLABS
- UNDERGROUND, EXTERIOR-WALL PIPE PENETRATIONS: INSTALL CAST-IRON "WALL PIPES" FOR SLEEVES. SEAL PIPE PENETRATIONS USING MECHANICAL SLEEVE SEALS. SELECT SLEEVE SIZE TO ALLOW FOR 1-INCH ANNUAL CLEAR SPACE BETWEEN PIPE AND SLEEVE FOR INSTALLING MECHANICAL SLEEVE SEALS
- FIRE-BARRIER PENETRATIONS: MAINTAIN INDICATED FIRE RATING OF WALLS, PARTITIONS, CEILINGS, AND FLOORS AT PIPE PENETRATIONS. SEAL PIPE PENETRATIONS WITH FIRESTOP MATERIALS.
- VERIFY FINAL EQUIPMENT LOCATIONS FOR ROUGHING-IN.

DEMOLITION

- VERIFY EXACT SIZE AND LOCATION OF EXISTING UTILITIES PRIOR TO START OF DEMOLITION WORK
- RELOCATE, REMOVE, AND ADJUST ALL MECHANICAL AND ELECTRICAL ITEMS AS REQUIRED TO ACCOMPLISH SCOPE OF NEW WORK
- EXISTING MECHANICAL ITEMS ARE SHOWN IN SCHEMATIC FORM BASED UPON EXISTING CONSTRUCTION DOCUMENTS AND/OR FIELD INVESTIGATION
- REMOVE EXISTING PIPING AND DUCTWORK BACK TO LAST ACTIVE SERVICE AND CAP
- FIXTURES AND EQUIPMENT INDICATED TO BE REUSED OR SALVAGED SHALL REMAIN THE PROPERTY OF THE OWNER AND BE STORED IN A LOCATION AS DIRECTED BY OWNER'S REPRESENTATIVE
- IN LOCATIONS WHERE EXISTING CONSTRUCTION IS REMOVED AND NO ADDITIONAL CONSTRUCTION IS INDICATED, PATCH EXISTING CONSTRUCTION TO MATCH ADJACENT SURFACES AND FINISHES
- CONNECTIONS TO, AND SHUTDOWNS OF, EXISTING SYSTEMS SHALL BE COORDINATED WITH OWNER'S REPRESENTATIVE TO ALLOW MINIMUM INTERFERENCE WITH OWNER'S OPERATION AND DOWNTIME OF EXISTING UTILITIES. CONTRACTOR SHALL SUBMIT TO OWNER FOR REVIEW AND APPROVAL THE PROPOSED PHASING PLAN FOR CONNECTING NEW SERVICES TO EXISTING

DESIGN CONDITIONS

HVAC DESIGN LOAD CALCULATIONS ARE BASED ON THE FOLLOWING CLIMATE DATA:
 CITY AND STATE: TERRE HAUTE, IN
 WINTER OUTDOOR AMBIENT DB: 1.4
 SUMMER OUTDOOR AMBIENT DBWB: 92.1/75.8

MECHANICAL SYSTEMS HAVE BEEN DESIGNED BASED UPON THE 2018 INTERNATIONAL MECHANICAL CODE, 2018 INTERNATIONAL ENERGY CONSERVATION CODE, NATIONAL FIRE PROTECTION (NFPA) STANDARDS, AND AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR-CONDITIONING ENGINEERS (ASHRAE) ACCEPTED STANDARDS AND PRACTICES



Farnsworth GROUP

2211 W. BRADLEY AVENUE
 CHAMPAIGN, ILLINOIS 61821
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 THE CITY OF MARSHALL

Marshall Public Library Phase II Renovations

612 Archer Avenue Marshall, IL 62441

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GENERAL INFORMATION

SHEET NUMBER:

MO.1

PROJECT NO.: 0230585.00

SECTION 230000 - BASIC MECHANICAL REQUIREMENTS

PART 1- GENERAL

SUMMARY

SECTION SPECIFIES THE BASIC REQUIREMENTS FOR MECHANICAL INSTALLATIONS AND INCLUDES REQUIREMENTS COMMON TO MORE THAN ONE SECTION OF THE SPECIFICATIONS.

GENERAL REFERENCES

ALL OF THE DRAWINGS AND SPECIFICATIONS ARE CONSIDERED A PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEARCHING ALL CONTRACT DOCUMENTS TO DETERMINE THE SCOPE OF WORK REQUIRED IN FINAL CONNECTIONS TO EQUIPMENT PROVIDED BY OTHER CONTRACTS OR CONTRACTORS. IT IS THE INTENT OF THE DRAWINGS TO PROVIDE AS MUCH INFORMATION AS POSSIBLE ON EQUIPMENT PROVIDED BY OTHERS. HOWEVER, THE EXTENT OF FINAL CONNECTIONS AND TYPE OF FINAL CONNECTIONS SHALL BE DETERMINED BY THE ACTUAL EQUIPMENT SUPPLIED BY OTHERS. THIS CONTRACTOR SHALL INCLUDE IN HIS BASE BID, REASONABLE COST FOR THE INSTALLATION OF EQUIPMENT PROVIDED BY OTHERS. HE SHALL NOT BE AWARDED EXTRA COSTS AFTER THE CONTRACT IS AWARDED UNLESS THE EQUIPMENT SO INSTALLED IS NOT SHOWN ON ANY OF THE CONTRACT DOCUMENTS.

WORK INCLUDED UNDER THIS DIVISION SHALL CONSIST OF FURNISHING ALL MATERIALS, SUPPLIES, EQUIPMENT, TOOLS, INSURANCE, TRANSPORTATION AND FACILITIES, AND PERFORMING ALL LABOR AND SERVICES NECESSARY FOR COMPLETE INSTALLATION OF THE NEW MECHANICAL SYSTEM(S).

ARRANGE FOR PIPE SPACES, CHASES, SLOTS, AND OPENINGS IN BUILDING STRUCTURE DURING PROGRESS OF CONSTRUCTION, TO ALLOW FOR HVAC INSTALLATIONS.

COORDINATE REQUIREMENTS FOR ACCESS PANELS AND DOORS FOR HVAC ITEMS REQUIRING ACCESS THAT ARE CONCEALED BEHIND FINISHED SURFACES.

DRAWINGS

DRAWINGS ARE DIAGRAMMATIC, INDICATING ONLY APPROXIMATE LOCATIONS OF SERVICES, DUCTWORK, APPARATUS, AND PIPING UNLESS NOTED OTHERWISE, AND ARE NOT TO BE SCALED. ACTUAL INSTALLATION MUST CONFORM TO ACTUAL BUILDING CONDITIONS, AND VERIFIED IN THE FIELD. THE ARCHITECT/ENGINEER RESERVES THE RIGHT TO EFFECT REASONABLE CHANGES IN THE LOCATION OF EQUIPMENT UP TO THE TIME OF ROUGH-IN WITHOUT ADDITIONAL COST TO THE OWNER. ANY AND ALL CHANGES SHALL BE APPROVED BY THE ARCHITECT/ENGINEER. MAINTAIN MANUFACTURERS RECOMMENDED CLEARANCES AROUND ALL EQUIPMENT.

THE DECISION OF THE ARCHITECT/ENGINEER AS TO THE TRUE INTENT AND MEANING OF THE PLANS AND SPECIFICATIONS SHALL BE FINAL AND BINDING UPON BOTH PARTIES TO THE CONTRACT.

ITEMS OMITTED FROM THE DRAWINGS BUT SPECIFIED, OR ITEMS CALLED FOR ON THE DRAWINGS BUT OMITTED FROM THE SPECIFICATIONS, SHALL BE CONSIDERED AS APPEARING IN BOTH. WHERE A CONFLICT OCCURS BETWEEN SPECIFICATIONS AND DRAWINGS, THE MOST EXPENSIVE ITEM WILL TAKE PRECEDENCE. THE CONFLICT WILL THEN BE RESOLVED DURING CONSTRUCTION AND A CREDIT ISSUED FOR A LESS COSTLY SOLUTION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL MECHANICAL APPARATUS, DUCTWORK, AND PIPING, AND TO CONFORM TO ACTUAL BUILDING STRUCTURAL CONDITIONS.

ITEMS OMITTED FROM DRAWINGS AND/ OR SPECIFICATIONS BUT REQUIRED FOR PROPER OPERATION OF EQUIPMENT OR FIXTURES BY MANUFACTURER SHALL BE CONSIDERED AS PART OF THE CONTRACT DOCUMENTS. ITEMS AS STATED ABOVE WHICH ARE NECESSARY TO COMPLY WITH THE INTENT OF THE CONTRACT DOCUMENTS SHALL BE CONSIDERED AS PART OF THE CONTRACT REQUIREMENTS.

REGULATORY REQUIREMENTS

MECHANICAL TO CONFORM TO 2012 INTERNATIONAL MECHANICAL CODE, 2012 INTERNATIONAL ENERGY CONSERVATION CODE, AND LOCAL, COUNTY, AND CITY CODES.

SECURE AND PAY FOR ALL PERMITS AND CERTIFICATIONS OF INSPECTIONS INCIDENTAL TO THIS WORK REQUIRED BY FOREGOING AUTHORITIES. BE RESPONSIBLE FOR PAYMENTS TO ALL PUBLIC UTILITIES FOR WORK PERFORMED BY THEM IN CONNECTION WITH THE PROVISION OF SERVICE CONNECTION REQUIRED. DELIVER ALL CERTIFICATES TO ARCHITECT/ENGINEER IN DUPLICATE.

PART 2- PRODUCTS (NOT APPLICABLE)

PART 3- EXECUTION

EQUIPMENT INSTALLATION

INSTALL EQUIPMENT TO ALLOW MAXIMUM POSSIBLE HEADROOM UNLESS SPECIFIC MOUNTING HEIGHTS ARE NOT INDICATED.

INSTALL EQUIPMENT LEVEL AND PLUMB, PARALLEL, AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS IN EXPOSED INTERIOR SPACES, UNLESS OTHERWISE INDICATED.

INSTALL HVAC EQUIPMENT TO FACILITATE SERVICE, MAINTENANCE, AND REPAIR OR REPLACEMENT OF COMPONENTS. CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM INTERFERENCE TO OTHER INSTALLATIONS. EXTEND GREASE FITTINGS TO ACCESSIBLE LOCATIONS.

INSTALL EQUIPMENT TO ALLOW RIGHT OF WAY FOR PIPING INSTALLED AT REQUIRED SLOPE.

PAINTING

DAMAGE AND TOUCHUP: REPAIR MARRED AND DAMAGED FACTORY-PAINTED FINISHES WITH MATERIALS AND PROCEDURES TO MATCH ORIGINAL FACTORY FINISH.

RECTION OF METAL SUPPORTS AND ANCHORAGES

CUT, FIT, AND PLACE MISCELLANEOUS METAL SUPPORTS ACCURATELY IN LOCATION, ALIGNMENT, AND ELEVATION TO SUPPORT AND ANCHOR HVAC MATERIALS AND EQUIPMENT.

RECTION OF WOOD SUPPORTS AND ANCHORAGES

CUT, FIT, AND PLACE WOOD GROUNDS, NAILERS, BLOCKING, AND ANCHORAGES TO SUPPORT, AND ANCHOR HVAC MATERIALS AND EQUIPMENT.

SELECT FASTENER SIZES THAT WILL NOT PENETRATE MEMBERS IF OPPOSITE SIDE WILL BE EXPOSED TO VIEW OR WILL RECEIVE FINISH MATERIALS. TIGHTEN CONNECTIONS BETWEEN MEMBERS. INSTALL FASTENERS WITHOUT SPLITTING WOOD MEMBERS.

ATTACH TO SUBSTRATES AS REQUIRED TO SUPPORT APPLIED LOADS.

OPERATIONS MANUAL

THIS CONTRACTOR SHALL FURNISH COMPETENT PERSONNEL TO INSTRUCT THE OWNER'S OPERATING PERSONNEL IN THE PROPER OPERATION OF EACH PIECE OF EQUIPMENT.

PRIOR TO FINAL PAYMENT DEMONSTRATE TO THE OWNER'S SATISFACTION THE PROPER OPERATION OF EACH AND ALL SYSTEMS, INSTRUCTING IN OPERATION AND MAINTENANCE OF MECHANICAL DEVICES AND EQUIPMENT.

SECTION 230593 - TESTING, ADJUSTING, AND BALANCING FOR HVAC

PART 1 - GENERAL

QUALITY ASSURANCE

TAB CONTRACTOR QUALIFICATIONS: ENGAGE A TAB ENTITY CERTIFIED BY AABC NEBB OR TABB.

PART 2 – EXECUTION

EXAMINATION

EXAMINE THE CONTRACT DOCUMENTS TO BECOME FAMILIAR WITH PROJECT REQUIREMENTS AND TO DISCOVER CONDITIONS IN SYSTEMS' DESIGNS THAT MAY PRECLUDE PROPER TAB OF SYSTEMS AND EQUIPMENT.

EXAMINE SYSTEMS FOR INSTALLED BALANCING DEVICES, SUCH AS TEST PORTS, GAGE COCKS, THERMOMETER WELLS, FLOW-CONTROL DEVICES, BALANCING VALVES AND FITTINGS, AND MANUAL VOLUME DAMPERS. VERIFY THAT LOCATIONS OF THESE BALANCING DEVICES ARE ACCESSIBLE.

GENERAL PROCEDURES FOR BALANCING AIR SYSTEMS

DETERMINE THE BEST LOCATIONS IN MAIN AND BRANCH DUCTS FOR ACCURATE DUCT-AIRFLOW MEASUREMENTS.

LOCATE START-STOP AND DISCONNECT SWITCHES, ELECTRICAL INTERLOCKS, AND MOTOR STARTERS.

VERIFY THAT MOTOR STARTERS ARE EQUIPPED WITH PROPERLY SIZED THERMAL PROTECTION.

CHECK DAMPERS FOR PROPER POSITION TO ACHIEVE DESIRED AIRFLOW PATH.

CHECK FOR AIRFLOW BLOCKAGES.

CHECK CONDENSATE DRAINS FOR PROPER CONNECTIONS AND FUNCTIONING.

PROCEDURES FOR CONSTANT-VOLUME AIR SYSTEMS

ADJUST FANS TO DELIVER TOTAL INDICATED AIRFLOWS WITHIN THE MAXIMUM ALLOWABLE FAN SPEED LISTED BY FAN MANUFACTURER.

MEASURE TOTAL AIRFLOW.

ADJUST VOLUME DAMPERS FOR MAIN DUCT, SUBMAIN DUCTS, AND MAJOR BRANCH DUCTS TO INDICATED AIRFLOWS WITHIN SPECIFIED TOLERANCES.

MEASURE AIR OUTLETS AND INLETS WITHOUT MAKING ADJUSTMENTS.

MEASURE TERMINAL OUTLETS USING A DIRECT-READING HOOD OR OUTLET MANUFACTURER'S WRITTEN INSTRUCTIONS AND CALCULATING FACTORS.

ADJUST AIR OUTLETS AND INLETS FOR EACH SPACE TO INDICATED AIRFLOWS WITHIN SPECIFIED TOLERANCES OF INDICATED VALUES. MAKE ADJUSTMENTS USING BRANCH VOLUME DAMPERS RATHER THAN EXTRACTORS AND THE DAMPERS AT AIR TERMINALS.

ADJUST EACH OUTLET IN SAME ROOM OR SPACE TO WITHIN SPECIFIED TOLERANCES OF INDICATED QUANTITIES WITHOUT GENERATING NOISE LEVELS ABOVE THE LIMITATIONS PRESCRIBED BY THE CONTRACT DOCUMENTS.

ADJUST PATTERNS OF ADJUSTABLE OUTLETS FOR PROPER DISTRIBUTION WITHOUT DRAFTS.

PROCEDURES FOR CONDENSING UNITS

VERIFY PROPER ROTATION OF FANS.

MEASURE ENTERING- AND LEAVING-AIR TEMPERATURES.

RECORD COMPRESSOR DATA.

TOLERANCES

SET HVAC SYSTEM'S AIR FLOW RATES WITHIN THE FOLLOWING TOLERANCES:

SUPPLY, RETURN, AND EXHAUST FANS AND EQUIPMENT WITH FANS: PLUS OR MINUS 10 PERCENT. AIR OUTLETS AND INLETS: PLUS OR MINUS 10 PERCENT.

FINAL REPORT

GENERAL REPORT DATA: IN ADDITION TO FORM TITLES AND ENTRIES, INCLUDE THE FOLLOWING DATA: TITLE PAGE, NAME AND ADDRESS OF THE TAB CONTRACTOR, PROJECT NAME, PROJECT LOCATION, CONTRACTOR'S NAME AND ADDRESS, REPORT DATE, SIGNATURE OF TAB SUPERVISOR WHO CERTIFIES THE REPORT.

AIR HANDLING UNIT TEST DATA (INDICATED AND ACTUAL VALUES): TOTAL AIR FLOW RATE IN CFM, TOTAL SYSTEM STATIC PRESSURE IN INCHES WG, FAN RPM, DISCHARGE STATIC PRESSURE IN INCHES WG, FILTER STATIC-PRESSURE DIFFERENTIAL IN INCHES WG, COOLING-COIL STATIC-PRESSURE DIFFERENTIAL IN INCHES WG, HEATING-COIL STATIC-PRESSURE DIFFERENTIAL IN INCHES WG, OUTDOOR AIRFLOW IN CFM, AND RETURN AIRFLOW IN CFM.

AIR TERMINAL TEST DATA (INDICATED AND ACTUAL VALUES): AIR FLOW RATE IN CFM, AIR VELOCITY IN FPM, PRELIMINARY AIR FLOW RATE AS NEEDED IN CFM, PRELIMINARY VELOCITY AS NEEDED IN FPM, FINAL AIR FLOW RATE IN CFM, FINAL VELOCITY IN FPM, SPACE TEMPERATURE IN DEG F.

SECTION 230713 - HVAC INSULATION

PART 1 – GENERAL

SUBMITTALS

PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED. INCLUDE THERMAL CONDUCTIVITY, THICKNESS, AND JACKETS (BOTH FACTORY AND FIELD APPLIED, IF ANY).

PART 2 – PRODUCTS

INSULATION MATERIALS

PRODUCTS SHALL NOT CONTAIN ASBESTOS, LEAD, MERCURY, OR MERCURY COMPOUNDS.

FLEXIBLE ELASTOMERIC: CLOSED-CELL, SPONGE- OR EXPANDED-RUBBER MATERIALS. COMPLY WITH ASTM C 534, TYPE I FOR TUBULAR MATERIALS AND TYPE II FOR SHEET MATERIALS. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:

AEROFLEX USA INC.; AEROCCEL.
ARMACELL LLC; ARMAFLEX.
RBX CORPORATION; INSUL-SHEET 1800 AND INSUL-TUBE 180.

MINERAL-FIBER BLANKET INSULATION: MINERAL OR GLASS FIBERS BONDED WITH A THERMOSETTING RESIN. COMPLY WITH ASTM C 553, TYPE II AND ASTM C 1290, TYPE III WITH FACTORY-APPLIED FSK JACKET. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:

CERTAINTEED CORP.; DUCT WRAP.
JOHNS MANVILLE; MICROLITE.
KNAUF INSULATION; DUCT WRAP.
MANSON INSULATION INC.; ALLEY WRAP.
OWENS CORNING; ALL-SERVICE DUCT WRAP.

ADHESIVE MATERIALS SHALL BE COMPATIBLE WITH INSULATION MATERIALS, JACKETS, AND SUBSTRATES AND FOR BONDING INSULATION TO ITSELF AND TO SURFACES TO BE INSULATED, UNLESS OTHERWISE INDICATED.

MASTIC MATERIALS SHALL BE COMPATIBLE WITH INSULATION MATERIALS, JACKETS, AND SUBSTRATES; COMPLY WITH MIL-C-19565C, TYPE II. FOR INDOOR APPLICATIONS, USE MASTICS THAT HAVE A VOC CONTENT OF 250 VALUE GIL OR LESS.

TAPES MATCHING FACTORY-APPLIED JACKET WITH ACRYLIC ADHESIVE; COMPLYING WITH ASTM C 1136

PART 3 – EXECUTION

EXAMINATION

VERIFY THAT SYSTEMS AND EQUIPMENT TO BE INSULATED HAVE BEEN TESTED AND ARE FREE OF DEFECTS AND SURFACES TO BE INSULATED ARE CLEAN AND DRY. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

GENERAL INSTALLATION REQUIREMENTS

INSTALL INSULATION MATERIALS, ACCESSORIES, AND FINISHES WITH SMOOTH, STRAIGHT, AND EVEN SURFACES; FREE OF VOIDS THROUGHOUT THE LENGTH OF EQUIPMENT, DUCTS AND FITTINGS, AND PIPING INCLUDING FITTINGS, VALVES, AND SPECIALTIES.

INSTALL ACCESSORIES COMPATIBLE WITH INSULATION MATERIALS AND SUITABLE FOR THE SERVICE. INSTALL ACCESSORIES THAT DO NOT CORRODE, SOFTEN, OR OTHERWISE ATTACK INSULATION OR JACKET IN EITHER WET OR DRY STATE.

INSTALL INSULATION WITH LONGITUDINAL SEAMS AT TOP AND BOTTOM OF HORIZONTAL RUNS.

INSTALL MULTIPLE LAYERS OF INSULATION WITH LONGITUDINAL AND END SEAMS STAGGERED.

KEEP INSULATION MATERIALS DRY DURING APPLICATION AND FINISHING.

INSTALL INSULATION WITH TIGHT LONGITUDINAL SEAMS AND END JOINTS. BOND SEAMS AND JOINTS WITH ADHESIVE RECOMMENDED BY INSULATION MATERIAL MANUFACTURER.

INSTALL INSULATION WITH LEAST NUMBER OF JOINTS PRACTICAL.

WHERE VAPOR BARRIER IS INDICATED, SEAL JOINTS, SEAMS, AND PENETRATIONS IN INSULATION AT HANGERS, SUPPORTS, ANCHORS, AND OTHER PROJECTIONS WITH VAPOR-BARRIER MASTIC.

APPLY ADHESIVES, MASTICS, AND SEALANTS AT MANUFACTURER'S RECOMMENDED COVERAGE RATE AND WET AND DRY FILM THICKNESSES.

CUT INSULATION IN A MANNER TO AVOID COMPRESSING INSULATION MORE THAN 75 PERCENT OF ITS NOMINAL THICKNESS.

FINISH INSTALLATION WITH SYSTEMS AT OPERATING CONDITIONS. REPAIR JOINT SEPARATIONS AND CRACKING DUE TO THERMAL MOVEMENT.

REPAIR DAMAGED INSULATION FACINGS BY APPLYING SAME FACING MATERIAL OVER DAMAGED AREAS. EXTEND PATCHES AT LEAST 4 INCHES BEYOND DAMAGED AREAS. ADHERE, STAPLE, AND SEAL PATCHES SIMILAR TO BUTT JOINTS.

PENETRATIONS

INSULATION INSTALLATION AT ABOVEGROUND EXTERIOR WALL PENETRATIONS: INSTALL INSULATION CONTINUOUSLY THROUGH WALL PENETRATIONS.

INSULATION INSTALLATION AT INTERIOR WALL AND PARTITION PENETRATIONS (THAT ARE NOT FIRE RATED): INSTALL INSULATION CONTINUOUSLY THROUGH WALLS AND PARTITIONS.

INSULATION INSTALLATION AT FIRE-RATED WALL AND PARTITION PENETRATIONS: INSTALL INSULATION CONTINUOUSLY THROUGH PENETRATIONS OF FIRE-RATED WALLS AND PARTITIONS. TERMINATE INSULATION AT FIRE DAMPER SLEEVES FOR FIRE-RATED WALL AND PARTITION PENETRATIONS. EXTERNALLY INSULATE DAMPER SLEEVES TO MATCH ADJACENT INSULATION AND OVERLAP DUCT INSULATION AT LEAST 2 INCHES.

FLEXIBLE ELASTOMERIC INSULATION INSTALLATION

SEAL LONGITUDINAL SEAMS AND END JOINTS WITH MANUFACTURER'S RECOMMENDED ADHESIVE TO ELIMINATE OPENINGS IN INSULATION THAT ALLOW PASSAGE OF AIR TO SURFACE BEING INSULATED.

INSTALLATION ON PIPE FITTINGS AND ELBOWS: INSTALL MITERED SECTIONS OF PIPE INSULATION. SECURE INSULATION MATERIALS AND SEAL SEAMS WITH MANUFACTURER'S RECOMMENDED ADHESIVE TO ELIMINATE OPENINGS IN INSULATION THAT ALLOW PASSAGE OF AIR TO SURFACE BEING INSULATED.

INSTALLATION ON VALVES AND PIPE SPECIALTIES: INSTALL PREFORMED VALVE COVERS MANUFACTURED OF SAME MATERIAL AS PIPE INSULATION WHEN AVAILABLE. WHEN PREFORMED VALVE COVERS ARE NOT AVAILABLE, INSTALL CUT SECTIONS OF PIPE AND SHEET INSULATION TO VALVE BODY. ARRANGE INSULATION TO PERMIT ACCESS TO PACKING AND TO ALLOW VALVE OPERATION WITHOUT DISTURBING INSULATION. INSTALL INSULATION TO FLANGES AS SPECIFIED FOR FLANGE INSULATION APPLICATION. SECURE INSULATION TO VALVES AND SPECIALTIES AND SEAL SEAMS WITH MANUFACTURER'S RECOMMENDED ADHESIVE TO ELIMINATE OPENINGS IN INSULATION THAT ALLOW PASSAGE OF AIR TO SURFACE BEING INSULATED.

MINERAL-FIBER INSULATION INSTALLATION

BLANKET INSULATION INSTALLATION ON DUCTS AND PLENUMS: SECURE WITH ADHESIVE AND INSULATION PINS.

APPLY ADHESIVES ACCORDING TO MANUFACTURER'S RECOMMENDED COVERAGE RATES PER UNIT AREA, FOR 100 PERCENT COVERAGE OF DUCT AND PLENUM SURFACES.

APPLY ADHESIVE TO ENTIRE CIRCUMFERENCE OF DUCTS AND TO ALL SURFACES OF FITTINGS AND TRANSITIONS.

INSTALL EITHER CAPACITOR-DISCHARGE-WELD PINS AND SPEED WASHERS OR CUPPED-HEAD, CAPACITOR-DISCHARGE-WELD PINS ON SIDES AND BOTTOM OF HORIZONTAL DUCTS AND SIDES OF VERTICAL DUCTS AS FOLLOWS: ON DUCT SIDES WITH DIMENSIONS 18 INCHES AND SMALLER, PLACE PINS ALONG LONGITUDINAL CENTERLINE OF DUCT. SPACE 3 INCHES MAXIMUM FROM INSULATION END JOINTS, AND 16 INCHES O.C. ON DUCT SIDES WITH DIMENSIONS LARGER THAN 18 INCHES, PLACE PINS 16 INCHES O.C. EACH WAY, AND 3 INCHES MAXIMUM FROM INSULATION JOINTS. INSTALL ADDITIONAL PINS TO HOLD INSULATION TIGHTLY AGAINST SURFACE AT CROSS BRACING. PINS MAY BE OMITTED FROM TOP SURFACE OF HORIZONTAL, RECTANGULAR DUCTS AND PLENUMS. DO NOT OVERCOMPRESS INSULATION DURING INSTALLATION. IMPALE INSULATION OVER PINS AND ATTACH SPEED WASHERS. CUT EXCESS PORTION OF PINS EXTENDING BEYOND SPEED WASHERS OR BEND PARALLEL WITH INSULATION SURFACE. COVER EXPOSED PINS AND WASHERS WITH TAPE MATCHING INSULATION FACING.

FOR DUCTS AND PLENUMS WITH SURFACE TEMPERATURES BELOW AMBIENT, INSTALL A CONTINUOUS UNBROKEN VAPOR BARRIER. CREATE A FACING LAP FOR LONGITUDINAL SEAMS AND END JOINTS WITH INSULATION BY REMOVING 2 INCHES FROM 1 EDGE AND 1 END OF INSULATION SEGMENT. SECURE LAPS TO ADJACENT INSULATION SECTION WITH 1/2-INCH OUTWARD-CLINCHING STAPLES, 1 INCH O.C. INSTALL VAPOR BARRIER CONSISTING OF FACTORY- OR FIELD-APPLIED JACKET, ADHESIVE, VAPOR-BARRIER MASTIC, AND SEALANT AT JOINTS, SEAMS, AND PROTRUSIONS.

REPAIR PUNCTURES, TEARS, AND PENETRATIONS WITH TAPE OR MASTIC TO MAINTAIN VAPOR-BARRIER SEAL.

INSTALL VAPOR STOPS FOR DUCTWORK AND PLENUMS OPERATING BELOW 50 DEG F AT 18-FOOT INTERVALS. VAPOR STOPS SHALL CONSIST OF VAPOR-BARRIER MASTIC APPLIED IN A Z-SHAPED PATTERN OVER INSULATION FACE, ALONG BUTT END OF INSULATION, AND OVER THE SURFACE. COVER INSULATION FACE AND SURFACE TO BE INSULATED A WIDTH EQUAL TO 2 TIMES THE INSULATION THICKNESS BUT NOT LESS THAN 3 INCHES.

OVERLAP UNFACED BLANKETS A MINIMUM OF 2 INCHES ON LONGITUDINAL SEAMS AND END JOINTS. AT END JOINTS, SECURE WITH STEEL BANDS SPACED A MAXIMUM OF 18 INCHES O.C.

INSTALL INSULATION ON RECTANGULAR DUCT ELBOWS AND TRANSITIONS WITH A FULL INSULATION SECTION FOR EACH SURFACE. INSTALL INSULATION ON ROUND AND FLAT-OVAL DUCT ELBOWS WITH INDIVIDUALLY MITERED GORES CUT TO FIT THE ELBOW.

INSULATE DUCT STIFFENERS, HANGERS, AND FLANGES THAT PROTRUDE BEYOND INSULATION SURFACE WITH 6-INCH- WIDE STRIPS OF SAME MATERIAL USED TO INSULATE DUCT. SECURE ON ALTERNATING SIDES OF STIFFENER, HANGER, AND FLANGE WITH PINS SPACED 6 INCHES O.C.

FINISHES

FLEXIBLE ELASTOMERIC THERMAL INSULATION: AFTER ADHESIVE HAS FULLY CURED, APPLY TWO COATS OF INSULATION MANUFACTURER'S RECOMMENDED PROTECTIVE COATING.

DUCT INSULATION SCHEDULE - GENERAL

PLENUMS AND DUCTS REQUIRING INSULATION:

INDOOR, CONCEALED SUPPLY AND OUTDOOR AIR.
INDOOR, EXPOSED SUPPLY AND OUTDOOR AIR.
INDOOR, CONCEALED EXHAUST BETWEEN ISOLATION DAMPER AND PENETRATION OF BUILDING EXTERIOR.

ITEMS NOT INSULATED:

INDOOR, FURNACE RETURN AIR.
FACTORY-INSULATED FLEXIBLE DUCTS.
FACTORY-INSULATED PLENUMS AND CASINGS.
FACTORY-INSULATED ACCESS PANELS AND DOORS

INDOOR DUCT AND PLENUM INSULATION SCHEDULE

CONCEALED OR EXPOSED, SUPPLY-AIR DUCT INSULATION SHALL BE THE FOLLOWING: MINERAL-FIBER BLANKET: 1-1/2 INCHES THICK AND 1.5-LB/CU. FT. NOMINAL DENSITY.

CONCEALED OR EXPOSED, EXHAUST-AIR DUCT BETWEEN ISOLATION DAMPER AND PENETRATION OF BUILDING EXTERIOR. DUCT INSULATION SHALL BE THE FOLLOWING: MINERAL-FIBER BLANKET: 2 INCHES THICK AND 1.5-LB/CU. FT. NOMINAL DENSITY.

CONCEALED OR EXPOSED, OUTDOOR-AIR PLENUM INSULATION SHALL BE THE FOLLOWING: MINERAL-FIBER BLANKET: 2 INCHES THICK AND 1.5-LB/CU. FT. NOMINAL DENSITY.

INDOOR PIPING INSULATION SCHEDULE

CONDENSATE AND EQUIPMENT DRAIN WATER BELOW 60 DEG F: ALL COPPER PIPE SIZES: INSULATION SHALL BE THE FOLLOWING: FLEXIBLE ELASTOMERIC: 3/4 INCH THICK.

INSULATION NOT REQUIRED FOR PVC CONDENSATE DRAIN PIPING.

REFRIGERANT SUCTION AND HOT-GAS FLEXIBLE TUBING: ALL PIPE SIZES: INSULATION SHALL BE FLEXIBLE ELASTOMERIC: 3/4 INCH THICK.

OUTDOOR, ABOVEGROUND PIPING INSULATION SCHEDULE

REFRIGERANT SUCTION AND HOT-GAS FLEXIBLE TUBING: ALL PIPE SIZES, INSULATION SHALL BE FLEXIBLE ELASTOMERIC: 3/4 INCH THICK. APPLY INSULATION MANUFACTURER'S PROTECTIVE COATING.

SECTION 233113 - METAL DUCTS

PART 1 - GENERAL

DELEGATED DUCT DESIGN: DUCT CONSTRUCTION, INCLUDING SHEET METAL THICKNESSES, SEAM AND JOINT CONSTRUCTION, REINFORCEMENTS, AND HANGERS AND SUPPORTS, SHALL COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" AND PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA INDICATED IN "DUCT SCHEDULE" ARTICLE.

PART 2 – PRODUCTS

SINGLE-WALL RECTANGULAR DUCTS AND FITTINGS

GENERAL FABRICATION REQUIREMENTS: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" BASED ON INDICATED STATIC-PRESSURE CLASS UNLESS OTHERWISE INDICATED.

SINGLE-WALL ROUND DUCTS AND FITTINGS

GENERAL FABRICATION REQUIREMENTS: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," CHAPTER 3, "ROUND, OVAL, AND FLEXIBLE DUCT," BASED ON INDICATED STATIC-PRESSURE CLASS UNLESS OTHERWISE INDICATED.

SHEET METAL MATERIALS

GENERAL MATERIAL REQUIREMENTS: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" FOR ACCEPTABLE MATERIALS, MATERIAL THICKNESSES, AND DUCT CONSTRUCTION METHODS UNLESS OTHERWISE INDICATED. SHEET METAL MATERIALS SHALL BE FREE OF PITTING, SEAM MARKS, ROLLER MARKS, STAINS, DISCOLORATIONS, AND OTHER IMPERFECTIONS.

GALVANIZED SHEET STEEL: COMPLY WITH ASTM A 653/A 653M. GALVANIZED COATING DESIGNATION: G90. FINISHES FOR SURFACES EXPOSED TO VIEW: MILL PHOSPHATIZED.

REINFORCEMENT SHAPES AND PLATES: ASTM A 36/A 36M, STEEL PLATES, SHAPES, AND BARS; GALVANIZED.

SEALANT AND GASKETS

GENERAL SEALANT AND GASKET REQUIREMENTS: SURFACE-BURNING CHARACTERISTICS FOR SEALANTS AND GASKETS SHALL BE A MAXIMUM FLAME-SPREAD INDEX OF 25 & A MAXIMUM SMOKE-DEVELOPED INDEX OF 50.

SEALANT AND GASKETS

GENERAL SEALANT AND GASKET REQUIREMENTS: SURFACE-BURNING CHARACTERISTICS FOR SEALANTS AND GASKETS SHALL BE A MAXIMUM FLAME-SPREAD INDEX OF 25 AND A MAXIMUM SMOKE-DEVELOPED INDEX OF 50.

HANGERS AND SUPPORTS

HANGER RODS FOR NONCORROSIVE ENVIRONMENTS: CADMIUM-PLATED STEEL RODS AND NUTS.

HANGER RODS FOR CORROSIVE ENVIRONMENTS: ELECTROGALVANIZED, ALL-THREAD RODS OR GALVANIZED RODS WITH THREADS PAINTED WITH ZINC-CHROMATE PRIMER AFTER INSTALLATION.

STRAP AND ROD SIZES: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," TABLE 4-1, "RECTANGULAR DUCT HANGERS MINIMUM SIZE," AND TABLE 4-2, "MINIMUM HANGER SIZES FOR ROUND DUCT."

DUCT ATTACHMENTS: SHEET METAL SCREWS, BLIND RIVETS, OR SELF-TAPPING METAL SCREWS; COMPATIBLE WITH DUCT MATERIALS.

SUPPORTS FOR GALVANIZED-STEEL DUCTS: GALVANIZED-STEEL SHAPES AND PLATES.

PART 3 – EXECUTION

DUCT INSTALLATION

DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF DUCT SYSTEM. INDICATED DUCT LOCATIONS, CONFIGURATIONS, AND ARRANGEMENTS WERE USED TO SIZE DUCTS AND CALCULATE FRICTION LOSS FOR AIR-HANDLING EQUIPMENT SIZING AND FOR OTHER DESIGN CONSIDERATIONS. INSTALL DUCT SYSTEMS AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED.

INSTALL DUCTS ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" UNLESS OTHERWISE INDICATED.

INSTALL ROUND DUCTS IN MAXIMUM PRACTICAL LENGTHS.

INSTALL DUCTS WITH FEWEST POSSIBLE JOINTS.

INSTALL FACTORY- OR SHOP-FABRICATED FITTINGS FOR CHANGES IN DIRECTION, SIZE, AND SHAPE AND FOR BRANCH CONNECTIONS.

UNLESS OTHERWISE INDICATED, INSTALL DUCTS VERTICALLY AND HORIZONTALLY, AND PARALLEL AND PERPENDICULAR TO BUILDING LINES.

INSTALL DUCTS CLOSE TO WALLS, OVERHEAD CONSTRUCTION, COLUMNS, AND OTHER STRUCTURAL AND PERMANENT ENCLOSURE ELEMENTS OF BUILDING.

INSTALL DUCTS WITH A CLEARANCE OF 1 INCH, PLUS ALLOWANCE FOR INSULATION THICKNESS.

ROUTE DUCTS TO AVOID PASSING THROUGH TRANSFORMER VAULTS AND ELECTRICAL EQUIPMENT ROOMS AND ENCLOSURES.

WHERE DUCTS PASS THROUGH NON-FIRE-RATED INTERIOR PARTITIONS AND EXTERIOR WALLS AND ARE EXPOSED TO VIEW, COVER THE OPENING BETWEEN THE PARTITION AND DUCT OR DUCT INSULATION WITH SHEET METAL FLANGES OF SAME METAL THICKNESS AS THE DUCT. OVERLAP OPENINGS ON FOUR SIDES BY AT LEAST 1-1/2 INCHES.

WHERE DUCTS PASS THROUGH FIRE-RATED INTERIOR PARTITIONS AND EXTERIOR WALLS, INSTALL FIRE DAMPERS.

PROVIDE DUCT LINER AS INDICATED ON THE DRAWING DETAIL FOR RETURN AIR TRANSFER DUCTS ONLY.

PROTECT DUCT INTERIORS FROM MOISTURE, CONSTRUCTION DEBRIS AND DUST, AND OTHER FOREIGN MATERIALS.

DUCT SEALING

SE

CONNECTIONS

MAKE CONNECTIONS TO EQUIPMENT WITH FLEXIBLE CONNECTORS.

COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" FOR BRANCH, OUTLET AND INLET, AND TERMINAL UNIT CONNECTIONS.

PAINTING

PAINT INTERIOR OF METAL DUCTS THAT ARE VISIBLE THROUGH REGISTERS AND GRILLES. APPLY ONE COAT OF FLAT, BLACK, LATEX PAINT OVER A COMPATIBLE GALVANIZED-STEEL PRIMER.

SECTION 233300 - AIR DUCT ACCESSORIES

PART 1 – GENERAL

SUMMARY

SECTION INCLUDES: MANUAL VOLUME DAMPERS, CONTROL DAMPERS, FIRE DAMPERS, TURNING VANES, DUCT-MOUNTED ACCESS DOORS, FLEXIBLE CONNECTORS, FLEXIBLE DUCTS, AND DUCT ACCESSORY HARDWARE.

SUBMITTALS

PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.

OPERATION AND MAINTENANCE DATA: FOR AIR DUCT ACCESSORIES TO INCLUDE IN OPERATION AND MAINTENANCE MANUALS.

PART 2 – PRODUCTS

MANUAL VOLUME DAMPERS

STANDARD, GALVANIZED STEEL, MANUAL VOLUME DAMPERS: ROUND: RUSKIN MDRS25 WITH HAND QUADRANT AND STAND-OFF BRACKET. RECTANGULAR: RUSKIN MD15 WITH HAND QUADRANT AND STAND-OFF BRACKET.

CONTROL DAMPERS (MOTORIZED DAMPER)

GALVANIZED STEEL CONSTRUCTION, LOW-LEAKAGE TYPE WITH BLADE EDGE AND JAMB SLEAS.

ROUND: RUSKIN CDRS25 WITH ELECTRONIC CONTROL ACTUATOR.

RECTANGULAR: RUSKIN CD356 WITH ELECTRONIC CONTROL ACTUATOR.

ACTUATORS: BELIMO: DIRECT COUPLED TO SHAFT

FIRE DAMPERS

TYPE: STATIC, RATED AND LABELED ACCORDING TO UL 555 BY AN NRTL.

FIRE RATING: 1-1/2 HOURS.

FRAME: CURTAIN TYPE WITH BLADES OUTSIDE AIRSTREAM EXCEPT WHEN LOCATED BEHIND GRILLE WHERE BLADES MAY BE INSIDE AIRSTREAM.

MOUNTING SLEEVE: FACTORY- OR FIELD-INSTALLED, GALVANIZED SHEET STEEL.

MOUNTING ORIENTATION: VERTICAL OR HORIZONTAL AS INDICATED.

HORIZONTAL DAMPERS: INCLUDE BLADE LOCK AND STAINLESS-STEEL CLOSURE SPRING.

HEAT-RESPONSIVE DEVICE: REPLACEABLE, 165 DEG F RATED, FUSIBLE LINKS.

RUSKIN IB2 FIRE DAMPER OR APPROVED EQUAL

CEILING RADIATION DAMPERS

LABELED ACCORDING TO UL 555C BY AN NRTL.

FRAME: GALVANIZED SHEET STEEL, ROUND OR RECTANGULAR, STYLE TO SUIT CEILING CONSTRUCTION.

BLADES: GALVANIZED SHEET STEEL WITH REFRACTORY INSULATION.

HEAT-RESPONSIVE DEVICE: REPLACEABLE, 165 DEG F RATED, FUSIBLE LINKS.

FIRE RATING: 2 HOURS.

RUSKIN CDF[R] SERIES CEILING DAMPERS OR APPROVED EQUAL.

FLANGE CONNECTORS

AT CONTRACTOR'S OPTION PROVIDE DUCT FLANGE CONNECTORS EQUAL TO DUCTMATE INDUSTRIES, INC.

DESCRIPTION: ROLL-FORMED, FACTORY-FABRICATED, SLIDE-ON TRANSVERSE FLANGE CONNECTORS, GASKETS, AND COMPONENTS.

MATERIAL: GALVANIZED STEEL.

GAGE AND SHAPE: MATCH CONNECTING DUCTWORK.

TURNING VANES

GENERAL REQUIREMENTS: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE"; FIGURES 2-3, "VANES AND VANE RUNNERS," AND 2-4, "VANE SUPPORT IN ELBOWS."

VANE CONSTRUCTION: SINGLE WALL FOR DUCTS UP TO 48 INCHES WIDE AND DOUBLE WALL FOR LARGER DIMENSIONS.

REMOTE DAMPER OPERATORS

SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY YOUNG REGULATOR COMPANY OR APPROVED EQUAL.

DESCRIPTION: CABLE SYSTEM DESIGNED FOR REMOTE MANUAL DAMPER ADJUSTMENT. BRASS TUBING, STAINLESS STEEL CABLE, WALL OR CEILING-BOX MOUNTING: RECESSED, 3/4 INCHES DEEP OR RECESSED, 2 INCHES DEEP WITH STEEL COVERPLATE.

DUCT-MOUNTED ACCESS DOORS

MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:

DUCTMATE INDUSTRIES, INC
RUSKIN COMPANY

DUCT-MOUNTED ACCESS DOORS: FABRICATE ACCESS PANELS ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE"; FIGURES 2-10, "DUCT ACCESS DOORS AND PANELS," AND 2-11, "ACCESS PANELS - ROUND DUCT."

DOOR: DOUBLE WALL, RECTANGULAR. GALVANIZED SHEET METAL WITH INSULATION FILL AND THICKNESS AS INDICATED FOR DUCT TYPE. GLASS, HINGES AND LATCHES: 1-BY-1-INCH BUTT OR PIANO HINGE AND CAM LATCHES. FABRICATE DOORS AIRTIGHT AND SUITABLE FOR DUCT PRESSURE CLASS.

FRAME: GALVANIZED SHEET STEEL, WITH BEND-OVER TABS AND FOAM GASKETS. ACCESS DOORS LESS THAN 12 INCHES SQUARE: NO HINGES AND TWO SASH LOCKS. ACCESS DOORS UP TO 18 INCHES SQUARE: TWO HINGES AND TWO SASH LOCKS.

FLEXIBLE CONNECTORS

MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING:

DUCTMATE INDUSTRIES, INC.
VENTFABRICS, INC.

MATERIALS: FLAME-RETARDANT OR NONCOMBUSTIBLE FABRICS.

COATINGS AND ADHESIVES: COMPLY WITH UL 181, CLASS 1.

METAL-EDGED CONNECTORS: FACTORY FABRICATED WITH A FABRIC STRIP 3-1/2 INCHES WIDE ATTACHED TO 2 STRIPS OF 2-3/4-INCH- WIDE, 0.028-INCH- THICK, GALVANIZED SHEET STEEL OR 0.032-INCH- THICK ALUMINUM SHEETS. PROVIDE METAL COMPATIBLE WITH CONNECTED DUCTS.

INDOOR SYSTEM, FLEXIBLE CONNECTOR FABRIC: GLASS FABRIC DOUBLE COATED WITH NEOPRENE. MINIMUM WEIGHT: 26 OZ./SQ. YD.. TENSILE STRENGTH: 480 LBF/INCH IN THE WARP AND 360 LBF/INCH IN THE FILLING. SERVICE TEMPERATURE: MINUS 40 TO PLUS 200 DEG F.

FLEXIBLE DUCTS

SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY FLEXMASTER U.S.A., INC. OR APPROVED EQUAL

INSULATED, FLEXIBLE DUCT: UL 181, CLASS 1, 2-PLY VINYL FILM SUPPORTED BY HELICALLY WOUND, SPRING-STEEL WIRE; FIBROUS-GLASS INSULATION; POLYETHYLENE VAPOR-BARRIER FILM, FLEXMASTER 88.

PRESSURE RATING: 10-INCH WG POSITIVE AND 1.0-INCH WG NEGATIVE.
MAXIMUM AIR VELOCITY: 4000 FPM.
TEMPERATURE RANGE: MINUS 10 TO PLUS 250 DEG F.
FLAME/SMOKE RATING: 25/50
INSULATION R-VALUE: 5.0 MINIMUM.

FLEXIBLE DUCT CONNECTORS: STAINLESS-STEEL BAND WITH CADMIUM-PLATED HEX SCREW TO TIGHTEN BAND WITH A WORM-GEAR ACTION IN SIZES 3 THROUGH 18 INCHES, TO SUIT DUCT SIZE.

PART 3 – EXECUTION

INSTALLATION

INSTALL DUCT ACCESSORIES ACCORDING TO APPLICABLE DETAILS IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" FOR METAL DUCTS.

INSTALL DUCT ACCESSORIES OF MATERIALS SUITED TO DUCT MATERIALS; USE GALVANIZED-STEEL ACCESSORIES IN GALVANIZED-STEEL DUCTS.

INSTALL CONTROL DAMPERS AT INLET OF EXHAUST FANS OR EXHAUST DUCTS AS CLOSE AS POSSIBLE TO EXHAUST FAN UNLESS OTHERWISE INDICATED.

INSTALL VOLUME DAMPERS AT POINTS ON SUPPLY, RETURN, AND EXHAUST SYSTEMS WHERE BRANCHES EXTEND FROM LARGER DUCTS.

INSTALL STEEL VOLUME DAMPERS IN STEEL DUCTS.

SET DAMPERS TO FULLY OPEN POSITION BEFORE TESTING, ADJUSTING, AND BALANCING.

INSTALL FIRE DAMPERS ACCORDING TO UL LISTING AND MANUFACTURER'S WRITTEN INSTRUCTIONS.

INSTALL DUCT ACCESS DOORS ON SIDES OF DUCTS TO ALLOW FOR INSPECTING, ADJUSTING, AND MAINTAINING ACCESSORIES AND EQUIPMENT ADJACENT TO AND CLOSE ENOUGH TO FIRE OR SMOKE DAMPERS, TO RESET OR REINSTALL FUSIBLE LINKS.

INSTALL ACCESS DOORS WITH SWING OUTWARD.

ACCESS DOOR SIZES: ONE-HAND OR INSPECTION ACCESS: 8 BY 5 INCHES. TWO-HAND ACCESS: 12 BY 6 INCHES. HEAD AND HAND ACCESS: 18 BY 10 INCHES.

LABEL ACCESS DOORS TO INDICATE THE PURPOSE OF THE ACCESS DOOR.

INSTALL FLEXIBLE CONNECTORS TO CONNECT DUCTS TO EQUIPMENT.

CONNECT DIFFUSERS TO DUCTS DIRECTLY OR WITH MAXIMUM 36-INCH LENGTHS OF FLEXIBLE DUCT CLAMPED OR STRAPPED IN PLACE. DO NOT USE FLEXIBLE DUCT TO MAKE CHANGE IN DIRECTION.

CONNECT FLEXIBLE DUCTS TO METAL DUCTS WITH DRAW BANDS.

FLEXIBLE DUCTS

SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY FLEXMASTER U.S.A., INC. OR APPROVED EQUAL

INSULATED, FLEXIBLE DUCT: UL 181, CLASS 1, 2-PLY VINYL FILM SUPPORTED BY HELICALLY WOUND, SPRING-STEEL WIRE; FIBROUS-GLASS INSULATION; POLYETHYLENE VAPOR-BARRIER FILM, FLEXMASTER 88.

PRESSURE RATING: 10-INCH WG POSITIVE AND 1.0-INCH WG NEGATIVE.
MAXIMUM AIR VELOCITY: 4000 FPM.
TEMPERATURE RANGE: MINUS 10 TO PLUS 250 DEG F.
FLAME/SMOKE RATING: 25/50
INSULATION R-VALUE: 5.0 MINIMUM.

FLEXIBLE DUCT CONNECTORS: STAINLESS-STEEL BAND WITH CADMIUM-PLATED HEX SCREW TO TIGHTEN BAND WITH A WORM-GEAR ACTION IN SIZES 3 THROUGH 18 INCHES, TO SUIT DUCT SIZE.

PART 3 – EXECUTION

INSTALLATION

INSTALL DUCT ACCESSORIES ACCORDING TO APPLICABLE DETAILS IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" FOR METAL DUCTS.

INSTALL DUCT ACCESSORIES OF MATERIALS SUITED TO DUCT MATERIALS; USE GALVANIZED-STEEL ACCESSORIES IN GALVANIZED-STEEL DUCTS.

INSTALL CONTROL DAMPERS AT INLET OF EXHAUST FANS OR EXHAUST DUCTS AS CLOSE AS POSSIBLE TO EXHAUST FAN UNLESS OTHERWISE INDICATED.

INSTALL VOLUME DAMPERS AT POINTS ON SUPPLY, RETURN, AND EXHAUST SYSTEMS WHERE BRANCHES EXTEND FROM LARGER DUCTS.

INSTALL STEEL VOLUME DAMPERS IN STEEL DUCTS.

SET DAMPERS TO FULLY OPEN POSITION BEFORE TESTING, ADJUSTING, AND BALANCING.

INSTALL FIRE DAMPERS ACCORDING TO UL LISTING AND MANUFACTURER'S WRITTEN INSTRUCTIONS.

INSTALL DUCT ACCESS DOORS ON SIDES OF DUCTS TO ALLOW FOR INSPECTING, ADJUSTING, AND MAINTAINING ACCESSORIES AND EQUIPMENT ADJACENT TO AND CLOSE ENOUGH TO FIRE OR SMOKE DAMPERS, TO RESET OR REINSTALL FUSIBLE LINKS.

INSTALL ACCESS DOORS WITH SWING OUTWARD.

ACCESS DOOR SIZES: ONE-HAND OR INSPECTION ACCESS: 8 BY 5 INCHES. TWO-HAND ACCESS: 12 BY 6 INCHES. HEAD AND HAND ACCESS: 18 BY 10 INCHES.

LABEL ACCESS DOORS TO INDICATE THE PURPOSE OF THE ACCESS DOOR.

INSTALL FLEXIBLE CONNECTORS TO CONNECT DUCTS TO EQUIPMENT.

CONNECT DIFFUSERS TO DUCTS DIRECTLY OR WITH MAXIMUM 36-INCH LENGTHS OF FLEXIBLE DUCT CLAMPED OR STRAPPED IN PLACE. DO NOT USE FLEXIBLE DUCT TO MAKE CHANGE IN DIRECTION.

CONNECT FLEXIBLE DUCTS TO METAL DUCTS WITH DRAW BANDS.

FIELD QUALITY CONTROL

OPERATE DAMPERS TO VERIFY FULL RANGE OF MOVEMENT.

INSPECT LOCATIONS OF ACCESS DOORS AND VERIFY THAT PURPOSE OF ACCESS DOOR CAN BE PERFORMED.

OPERATE FIRE, DAMPERS TO VERIFY FULL RANGE OF MOVEMENT AND VERIFY THAT PROPER HEAT-RESPONSE DEVICE IS INSTALLED.

OPERATE REMOTE DAMPER OPERATORS TO VERIFY FULL RANGE OF MOVEMENT OF OPERATOR AND DAMPER.

SECTION 233423 - HVAC POWER VENTILATORS

PART 1 – GENERAL

ACTION SUBMITTALS

PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.

CLOSEOUT SUBMITTALS

OPERATION AND MAINTENANCE DATA.

PART 2 – PRODUCTS

REFER TO EQUIPMENT SCHEDULES

PART 3 – EXECUTION

INSTALLATION

SUSPEND UNITS FROM STRUCTURE; USE STEEL WIRE OR METAL STRAPS.

INSTALL UNITS WITH CLEARANCES FOR SERVICE AND MAINTENANCE.

CONNECTIONS

DRAWINGS INDICATE GENERAL ARRANGEMENT OF DUCTS AND DUCT ACCESSORIES. MAKE FINAL DUCT CONNECTIONS WITH FLEXIBLE CONNECTORS.

INSTALL DUCTS ADJACENT TO POWER VENTILATORS TO ALLOW SERVICE AND MAINTENANCE.

TESTS AND INSPECTIONS

VERIFY THAT SHIPPING, BLOCKING, AND BRACING ARE REMOVED AND THAT UNIT IS SECURE ON MOUNTINGS AND SUPPORTING DEVICES AND THAT CONNECTIONS TO DUCTS AND ELECTRICAL COMPONENTS ARE COMPLETE.

VERIFY THAT PROPER THERMAL-OVERLOAD PROTECTION IS INSTALLED IN MOTORS, STARTERS, AND DISCONNECT SWITCHES.VERIFY THAT CLEANING AND ADJUSTING ARE COMPLETE.

REMOVE AND REPLACE MALFUNCTIONING UNITS AND RETEST AS SPECIFIED ABOVE.

SECTION 235416 - FURNACES

PART 1 – GENERAL

SUBMITTALS

PRODUCT DATA: INCLUDE WARRANTY, RATED CAPACITIES, OPERATING CHARACTERISTICS, FURNISHED SPECIALTIES, AND ACCESSORIES FOR EACH FURNACE, THERMOSTAT, AIR FILTER, AND REFRIGERATION COMPONENT(S).

OPERATION AND MAINTENANCE DATA FOR EACH FURNACE TO INCLUDE IN EMERGENCY, OPERATION, AND MAINTENANCE MANUALS.

COORDINATION

COORDINATE SIZE AND LOCATION OF CONCRETE BASES. CAST ANCHOR-BOLT INSERTS INTO BASES.

WARRANTY

SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE THE FOLLOWING COMPONENTS OF FURNACES THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.

WARRANTY PERIOD, COMMENCING ON DATE OF SUBSTANTIAL COMPLETION: FURNACE HEAT EXCHANGER: 5 YEARS. INTEGRATED IGNITION AND BLOWER CONTROL CIRCUIT BOARD: FIVE YEARS. DRAFT-INDUCER MOTOR: FIVE YEARS. REFRIGERATION COMPRESSORS: 5 YEARS. EVAPORATOR AND CONDENSER COILS: FIVE YEARS.

PART 2 – PRODUCTS

GAS-FIRED FURNACES, CONDENSING

BASIS-OF-DESIGN PRODUCT: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE THE PRODUCT INDICATED ON DRAWINGS OR A COMPARABLE PRODUCT BY ONE OF THE FOLLOWING:

CARRIER CORPORATION; DIV. OF UNITED TECHNOLOGIES CORP.
LENNOX INDUSTRIES INC.
TRANE
YORK INTERNATIONAL CORP.; A DIVISION OF UNITARY PRODUCTS GROUP.

STEEL CABINET INTERIOR AROUND HEAT EXCHANGER SHALL BE FACTORY-INSTALLED INSULATION. LIFT-OUT PANELS SHALL EXPOSE BURNERS AND ALL OTHER ITEMS REQUIRING ACCESS FOR MAINTENANCE. FACTORY PAINT EXTERNAL CABINETS IN MANUFACTURER'S STANDARD COLOR. AIRSTREAM SURFACES: SURFACES IN CONTACT WITH THE AIRSTREAM SHALL COMPLY WITH REQUIREMENTS IN ASHRAE 62.1-2004.

FAN: CENTRIFUGAL, FACTORY BALANCED, RESILIENT MOUNTED, DIRECT DRIVE.

FUEL: NATURAL GAS.

HEAT EXCHANGER: PRIMARY: ALUMINIZED STEEL. SECONDARY: STAINLESS STEEL.

GAS VALVE: 100 PERCENT SAFETY SINGLE-STAGE MAIN GAS VALVE, MAIN SHUTOFF VALVE, PRESSURE REGULATOR, SAFETY PILOT WITH ELECTRONIC FLAME SENSOR, LIMIT CONTROL, TRANSFORMER, AND COMBINATION IGNITION/FAN TIMER CONTROL BOARD.

IGNITION: ELECTRIC PILOT IGNITION, WITH HOT-SURFACE IGNITER OR ELECTRIC SPARK IGNITION.

ELECTRONIC FLAME SENSOR: PREVENTS GAS VALVE FROM OPENING UNTIL PILOT FLAME IS PROVEN; STOPS GAS FLOW ON IGNITION FAILURE.
LIMIT CONTROL: FIXED STOP AT MAXIMUM PERMISSIBLE SETTING; DE-ENERGIZES BURNER ON EXCESSIVE BONNET TEMPERATURE; AUTOMATIC RESET.

COMBUSTION-AIR INDUCER: CENTRIFUGAL FAN WITH THERMALLY PROTECTED MOTOR AND SLEEVE BEARINGS PREPARES HEAT EXCHANGER AND VENTS COMBUSTION PRODUCTS; PRESSURE SWITCH PREVENTS FURNACE OPERATION IF COMBUSTION-AIR INLET OR FLUE OUTLET IS BLOCKED.

FURNACE CONTROLS: SOLID-STATE BOARD INTEGRATES IGNITION, HEAT, COOLING, AND FAN SPEEDS; ADJUSTABLE FAN-ON AND FAN-OFF TIMING; TERMINALS FOR CONNECTION TO ACCESSORIES; DIAGNOSTIC LIGHT.

ACCESSORIES

PVC COMBUSTION AIR INLET PIPE, VENT PIPE, AND CONDENSATE DRAIN PIPING.

PVC PLASTIC PIPE: SCHEDULE 40, COMPLYING WITH ASTM D 1785.

PVC PLASTIC FITTINGS: SCHEDULE 40, COMPLYING WITH ASTM D 2466, SOCKET TYPE.

PVC SOLVENT CEMENT: ASTM D 2564.

USE PVC SOLVENT CEMENT THAT HAS A VOC CONTENT OF 510 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).
USE ADHESIVE PRIMER THAT HAS A VOC CONTENT OF 550 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).

THERMOSTATS

SOLID-STATE TOUCH SCREEN THERMOSTAT: WALL-MOUNTING, PROGRAMMABLE, MICROPROCESSOR-BASED UNIT WITH AUTOMATIC SWITCHING FROM HEATING TO COOLING, PREFERENTIAL RATE CONTROL, SEVEN-DAY PROGRAMMABILITY WITH MINIMUM OF FOUR TEMPERATURE PRESETS PER DAY, VACATION MODE, AND BATTERY BACKUP PROTECTION AGAINST POWER FAILURE FOR PROGRAM SETTINGS.

AIR FILTERS

DISPOSABLE AIR FILTERS: SHEET METAL HOUSING ARRANGED TO BE DUCTED IN RETURN-AIR DUCT CONNECTION TO FURNACE; MERV 8 RATING.

REFRIGERATION COMPONENTS

REFRIGERATION COMPRESSOR, COILS, AND SPECIALTIES SHALL BE DESIGNED TO OPERATE WITH CFC-FREE REFRIGERANTS.
ENERGY EFFICIENCY: EQUAL TO OR GREATER THAN PRESCRIBED BY ASHRAE/IESNA 90.1, "ENERGY STANDARD FOR BUILDINGS EXCEPT LOW-RISE RESIDENTIAL BUILDINGS."

REFRIGERANT COIL: COPPER TUBES MECHANICALLY EXPANDED INTO ALUMINUM FINS. COMPLY WITH ARI 210/240, "UNITARY AIR-CONDITIONING AND AIR-SOURCE HEAT PUMP EQUIPMENT." MATCH SIZE WITH FURNACE. INCLUDE CONDENSATE DRAIN PAN WITH ACCESSIBLE DRAIN OUTLET COMPLYING WITH ASHRAE 62.1.

REFRIGERANT COIL ENCLOSURE: STEEL, MATCHING FURNACE AND EVAPORATOR COIL, WITH ACCESS PANEL AND FLANGES FOR INTEGRAL MOUNTING AT OR ON FURNACE CABINET AND GALVANIZED SHEET METAL DRAIN PAN COATED WITH BLACK ASPHALTIC BASE PAINT.

REFRIGERANT LINE KITS: ANNEALED-COPPER SUCTION AND LIQUID LINES FACTORY CLEANED, DRIED, PRESSURIZED WITH NITROGEN, SEALED, AND WITH SUCTION LINE INSULATED. PROVIDE IN STANDARD LENGTHS FOR INSTALLATION WITHOUT JOINTS, EXCEPT AT EQUIPMENT CONNECTIONS.

AIR-COOLED, COMPRESSOR-CONDENSER UNIT

CASING: STEEL, FINISHED WITH BAKED ENAMEL, WITH REMOVABLE PANELS FOR ACCESS TO CONTROLS, WEEP HOLES FOR WATER DRAINAGE, AND MOUNTING HOLES IN BASE. PROVIDE BRASS SERVICE VALVES, FITTINGS, AND GAGE PORTS ON EXTERIOR OF CASING.

COMPRESSOR: HERMETICALLY SEALED RECIPROCATING OR SCROLL TYPE. CRANKCASE HEATER. VIBRATION ISOLATION MOUNTS FOR COMPRESSOR. COMPRESSOR MOTOR SHALL HAVE THERMAL- AND CURRENT-SENSITIVE OVERLOAD DEVICES, START CAPACITOR, RELAY, AND CONTACTOR. TWO-SPEED COMPRESSOR MOTORS SHALL HAVE MANUAL-RESET HIGH-PRESSURE SWITCH AND AUTOMATIC-RESET LOW-PRESSURE SWITCH.

REFRIGERANT COIL: COPPER TUBE, WITH MECHANICALLY BONDED ALUMINUM FINS, COMPLYING WITH ARI 210/240, AND WITH LIQUID SUBCOOLER.

FAN: ALUMINUM-PROPELLER TYPE, DIRECTLY CONNECTED TO MOTOR.

MOTOR: PERMANENTLY LUBRICATED, WITH INTEGRAL THERMAL-OVERLOAD PROTECTION.

LOW AMBIENT KIT: PERMITS OPERATION DOWN TO 30 DEG F.

PART 3 – EXECUTION

INSTALLATION

INSTALL GAS-FIRED FURNACES AND ASSOCIATED FUEL AND VENT FEATURES AND SYSTEMS ACCORDING TO NFPA 54.

CONTROLS: INSTALL THERMOSTATS AT MOUNTING HEIGHT OF 60 INCHES ABOVE FLOOR.

WIRING METHOD: INSTALL CONTROL WIRING IN ACCESSIBLE CEILING SPACES AND IN GYPSUM BOARD PARTITIONS WHERE UNENCLOSED WIRING METHOD MAY BE USED. CONCEAL CONTROL WIRING EXCEPT IN UNFINISHED SPACES. INSTALL CONTROL WIRING IN CONDUIT WITHIN MECHANICAL ROOM.

INSTALL GROUND-MOUNTED, COMPRESSOR-CONDENSER COMPONENTS ON 4-INCH- THICK, REINFORCED CONCRETE BASE; 4 INCHES LARGER ON EACH SIDE THAN UNIT.

CONNECTIONS

CONNECT GAS PIPING WITH UNION, DIRT LEG, AND APPLIANCE CONNECTOR VALVE.

INSTALL PIPING ADJACENT TO EQUIPMENT TO ALLOW SERVICE AND MAINTENANCE.

VENT AND OUTSIDE-AIR CONNECTION, CONDENSING, GAS-FIRED FURNACES: CONNECT PLASTIC PIPING VENT MATERIAL TO FURNACE CONNECTIONS AND EXTEND OUTDOORS. TERMINATE VENT OUTDOORS WITH A CAP AND IN AN ARRANGEMENT THAT WILL PROTECT AGAINST ENTRY OF BIRDS, INSECTS, AND DIRT.

SLOPE PIPE VENT BACK TO FURNACE OR TO OUTSIDE TERMINAL.

CONNECT DUCTS TO FURNACE WITH FLEXIBLE CONNECTOR.

CONNECT REFRIGERANT TUBING KITS TO REFRIGERANT COIL IN FURNACE AND TO AIR-COOLED, COMPRESSOR-CONDENSER UNIT.

STARTUP SERVICE

COMPLETE INSTALLATION AND STARTUP CHECKS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND PERFORM THE FOLLOWING:

INSPECT FOR PHYSICAL DAMAGE TO UNIT CASINGS.
VERIFY THAT ACCESS DOORS MOVE FREELY AND ARE WEATHERTIGHT.
CLEAN UNITS AND INSPECT FOR CONSTRUCTION DEBRIS.
VERIFY THAT ALL BOLTS AND SCREWS ARE TIGHT.
ADJUST VIBRATION ISOLATION AND FLEXIBLE CONNECTIONS.
VERIFY THAT CONTROLS ARE CONNECTED AND OPERATIONAL.

ADJUST FAN BELTS TO PROPER ALIGNMENT AND TENSION.

START UNIT ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND COMPLETE MANUFACTURER'S OPERATIONAL CHECKLIST.

ADJUSTING

ADJUST INITIAL TEMPERATURE SET POINTS.

SET CONTROLS, BURNER, AND OTHER ADJUSTMENTS FOR OPTIMUM HEATING PERFORMANCE AND EFFICIENCY. ADJUST HEAT-DISTRIBUTION FEATURES, INCLUDING SHUTTERS, DAMPERS, AND RELAYS, TO PROVIDE OPTIMUM HEATING PERFORMANCE AND SYSTEM EFFICIENCY

DEMONSTRATION

TRAIN OWNER'S MAINTENANCE PERSONNEL TO ADJUST, OPERATE, AND MAINTAIN CONDENSING UNITS.

SECTION 237413 - PACKAGED OUTDOOR AIR-HANDLING UNITS (RTU)

PART 1 – GENERAL

ACTION SUBMITTALS

PRODUCT DATA: INCLUDE MANUFACTURER'S TECHNICAL DATA FOR EACH RTU, INCLUDING RATED CAPACITIES, DIMENSIONS, REQUIRED CLEARANCES, CHARACTERISTICS, FURNISHED SPECIALTIES, AND ACCESSORIES.

CLOSEOUT SUBMITTALS

OPERATION AND MAINTENANCE DATA FOR RTUS TO INCLUDE IN EMERGENCY, OPERATION, AND MAINTENANCE MANUALS.

PART 2 – PRODUCTS

MANUFACTURERS

SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE THE PRODUCT INDICATED ON DRAWINGS OR A COMPARABLE PRODUCT BY ONE OF THE FOLLOWING:

- CARRIER CORPORATION.
- LENNOX INDUSTRIES INC.
- MCCOJAY INTERNATIONAL.
- TRANE; AMERICAN STANDARD COMPANIES, INC.
- YORK INTERNATIONAL CORPORATION.

GENERAL FABRICATION REQUIREMENTS FOR CASINGS: FORMED AND REINFORCED INSULATED PANELS, FABRICATED TO ALLOW REMOVAL FOR ACCESS TO INTERNAL PARTS AND COMPONENTS, WITH JOINTS BETWEEN SECTIONS SEALED.

EXTERIOR CASING MATERIAL: GALVANIZED STEEL WITH FACTORY-PAINTED FINISH, WITH PITCHED ROOF PANELS AND KNOCKOUTS WITH GROMMET SEALS FOR ELECTRICAL AND PIPING CONNECTIONS AND LIFTING LUGS.

CONDENSATE DRAIN PANS: FORMED SECTIONS OF GALVANIZED-STEEL SHEET, A MINIMUM OF 2 INCHES DEEP, AND COMPLYING WITH ASHRAE 62.1.

DIRECT-DRIVEN SUPPLY-AIR FANS: DOUBLE WIDTH, FORWARD CURVED, CENTRIFUGAL; WITH PERMANENTLY LUBRICATED, MULTISPEED MOTOR RESILIENTLY MOUNTED IN THE FAN INLET. POLYMER, ALUMINUM OR PAINTED-STEEL WHEELS, AND POLYMER, GALVANIZED- OR PAINTED-STEEL FAN SCROLLS.

CONDENSER-COIL FAN: PROPELLER, MOUNTED ON SHAFT OF PERMANENTLY LUBRICATED MOTOR.

SUPPLY-AIR REFRIGERANT COIL: ALUMINUM-PLATE FIN AND SEAMLESS COPPER TUBE IN STEEL CASING WITH EQUALIZING-TYPE VERTICAL DISTRIBUTOR. COIL SPLIT: INTERLACED.

CONDENSATE DRAIN PAN: GALVANIZED STEEL WITH CORROSION-RESISTANT COATING FORMED WITH PITCH AND DRAIN CONNECTIONS COMPLYING WITH ASHRAE 62.1.

OUTDOOR-AIR REFRIGERANT COIL: ALUMINUM-PLATE FIN AND SEAMLESS COPPER TUBE IN STEEL CASING WITH EQUALIZING-TYPE VERTICAL DISTRIBUTOR.

REFRIGERATION SPECIALTIES: EXPANSION VALVE WITH REPLACEABLE THERMOSTATIC ELEMENT. REFRIGERANT FILTER/DRYER. MANUAL-RESET HIGH-PRESSURE SAFETY SWITCH. AUTOMATIC-RESET LOW-PRESSURE SAFETY SWITCH. MINIMUM OFF-TIME RELAY. AUTOMATIC-RESET COMPRESSOR MOTOR THERMAL OVERLOAD. BRASS SERVICE VALVES INSTALLED IN COMPRESSOR SUCTION AND LIQUID LINES.

AIR FILTRATION

MINIMUM ARRESTANCE ACCORDING TO ASHRAE 52.1, AND A MINIMUM EFFICIENCY REPORTING VALUE (MERV) ACCORDING TO ASHRAE 52.2. PLEATED: MINIMUM 90 PERCENT ARRESTANCE, AND MERV 7.

GAS FURNACE

DESCRIPTION: FACTORY ASSEMBLED, PIPED, AND WIRED; COMPLYING WITH ANSI Z21.47 AND NFPA 54.

BURNERS: STAINLESS STEEL.

FUEL: NATURAL GAS.

IGNITION: ELECTRONICALLY CONTROLLED ELECTRIC SPARK OR HOT-SURFACE IGNITER WITH FLAME SENSOR.

HEAT-EXCHANGER AND DRAIN PAN: STAINLESS STEEL.

POWER VENT: INTEGRAL, MOTORIZED CENTRIFUGAL FAN INTERLOCKED WITH GAS VALVE.

SAFETY CONTROLS: GAS CONTROL VALVE: TWO STAGE. GAS TRAIN: SINGLE-BODY, REGULATED, REDUNDANT, 24-V AC GAS VALVE ASSEMBLY CONTAINING PILOT SOLENOID VALVE, PILOT FILTER, PRESSURE REGULATOR, PILOT SHUTOFF, AND MANUAL SHUTOFF.

DAMPERS

OUTDOOR- AND RETURN-AIR MIXING DAMPERS: PARALLEL- OR OPPOSED-BLADE GALVANIZED-STEEL DAMPERS MECHANICALLY FASTENED TO CADMIUM PLATED FOR GALVANIZED-STEEL OPERATING ROD IN REINFORCED CABINET. CONNECT OPERATING RODS WITH COMMON LINKAGE AND INTERCONNECT LINKAGES SO DAMPERS OPERATE SIMULTANEOUSLY.

DAMPER MOTOR: MODULATING WITH ADJUSTABLE MINIMUM POSITION. RELIEF-AIR DAMPER: GRAVITY ACTUATED OR MOTORIZED, AS REQUIRED BY ASHRAE/IESNA 90.1, WITH BIRD SCREEN AND HOOD.

ELECTRICAL POWER CONNECTION

PROVIDE FOR SINGLE CONNECTION OF POWER TO UNIT WITH CONTROL-CIRCUIT TRANSFORMER WITH BUILT-IN OVERCURRENT PROTECTION.

CONTROLS

WALL-MOUNTED THERMOSTAT WITH THE FOLLOWING FEATURES:

- HEAT-COOL-OFF SWITCH.
- FAN ON-AUTO SWITCH.
- FAN-SPEED SWITCH.
- MANUAL CHANGE-OVER.
- ADJUSTABLE DEADBAND.
- EXPOSED SET POINT.
- EXPOSED INDICATION.
- DEGREE F INDICATION.
- UNOCCUPIED-PERIOD-OVERRIDE PUSH BUTTON.
- SCHEDULED OPERATION: OCCUPIED AND UNOCCUPIED PERIODS ON SEVEN 365-DAY CLOCK WITH A MINIMUM OF FOUR PROGRAMMABLE PERIODS PER DAY.

ACCESSORIES

COIL GUARDS OF PAINTED, GALVANIZED-STEEL WIRE.

ROOF CURBS

MATERIALS: GALVANIZED STEEL WITH CORROSION-PROTECTION COATING, WATERTIGHT GASKETS, AND FACTORY-INSTALLED WOOD NAILER; COMPLYING WITH NRCA STANDARDS.

CURB INSULATION AND ADHESIVE: COMPLY WITH NFPA 90A.

INSULATION FACTORY APPLIED WITH ADHESIVE AND MECHANICAL FASTENERS TO THE INTERNAL SURFACE OF CURB.

CURB HEIGHT: 14 INCHES.

PART 3 – EXECUTION

EXAMINATION

EXAMINE SUBSTRATES, AREAS, AND CONDITIONS, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION TOLERANCES AND OTHER CONDITIONS AFFECTING PERFORMANCE OF RTUS.

EXAMINE ROUGHING-IN FOR RTUS TO VERIFY ACTUAL LOCATIONS OF PIPING AND DUCT CONNECTIONS BEFORE EQUIPMENT INSTALLATION.

EXAMINE ROOFS FOR SUITABLE CONDITIONS WHERE RTUS WILL BE INSTALLED.

PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

INSTALLATION

ROOF CURB: INSTALL ON ROOF STRUCTURE, LEVEL AND SECURE, ACCORDING TO NRCA'S "LOW-SLOPE MEMBRANE ROOFING CONSTRUCTION DETAILS MANUAL," ILLUSTRATION "RAISED CURB DETAIL FOR ROOFTOP AIR HANDLING UNITS AND DUCTS" AND ARI GUIDELINE B. INSTALL RTUS ON CURBS AND COORDINATE ROOF PENETRATIONS AND FLASHING WITH ROOF CONSTRUCTION SPECIFIED IN DIVISION 07 SECTION "ROOF ACCESSORIES." SECURE RTUS TO UPPER CURB RAIL, AND SECURE CURB BASE TO ROOF FRAMING WITH ANCHOR BOLTS.

CONNECTIONS

INSTALL CONDENSATE DRAIN, MINIMUM CONNECTION SIZE, WITH TRAP AND INDIRECT CONNECTION TO NEAREST ROOF DRAIN OR AREA DRAIN.

INSTALL PIPING ADJACENT TO RTUS TO ALLOW SERVICE AND MAINTENANCE.

GAS PIPING: CONNECT GAS PIPING TO BURNER, FULL SIZE OF GAS TRAIN INLET, AND CONNECT WITH UNION, DIRT LEG, AND SHUTOFF VALVE WITH SUFFICIENT CLEARANCE FOR BURNER REMOVAL AND SERVICE.

INSTALL DUCTS TO TERMINATION AT TOP OF ROOF CURB.

REMOVE ROOF DECKING ONLY AS REQUIRED FOR PASSAGE OF DUCTS. DO NOT CUT OUT DECKING UNDER ENTIRE ROOF CURB.

CONNECT SUPPLY DUCTS TO RTUS WITH FLEXIBLE DUCT CONNECTORS

INSTALL RETURN-AIR DUCT CONTINUOUSLY THROUGH ROOF STRUCTURE.

STARTUP SERVICE

ENGAGE A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE TO PERFORM STARTUP SERVICE.

COMPLETE INSTALLATION AND STARTUP CHECKS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

DEMONSTRATION

ENGAGE A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE TO TRAIN OWNER'S MAINTENANCE PERSONNEL TO ADJUST, OPERATE, AND MAINTAIN RTUS.



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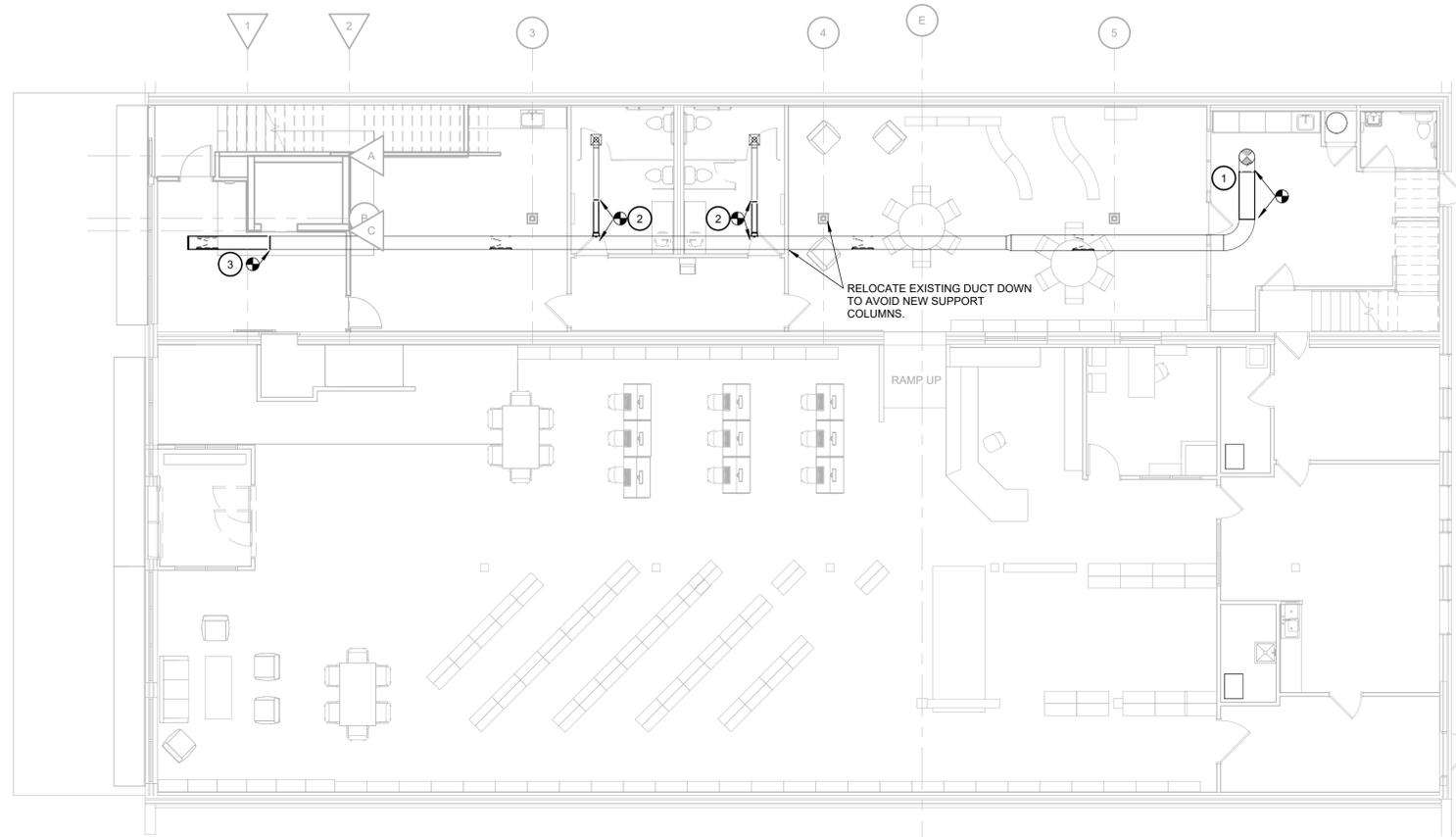
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SPECIFICATIONS

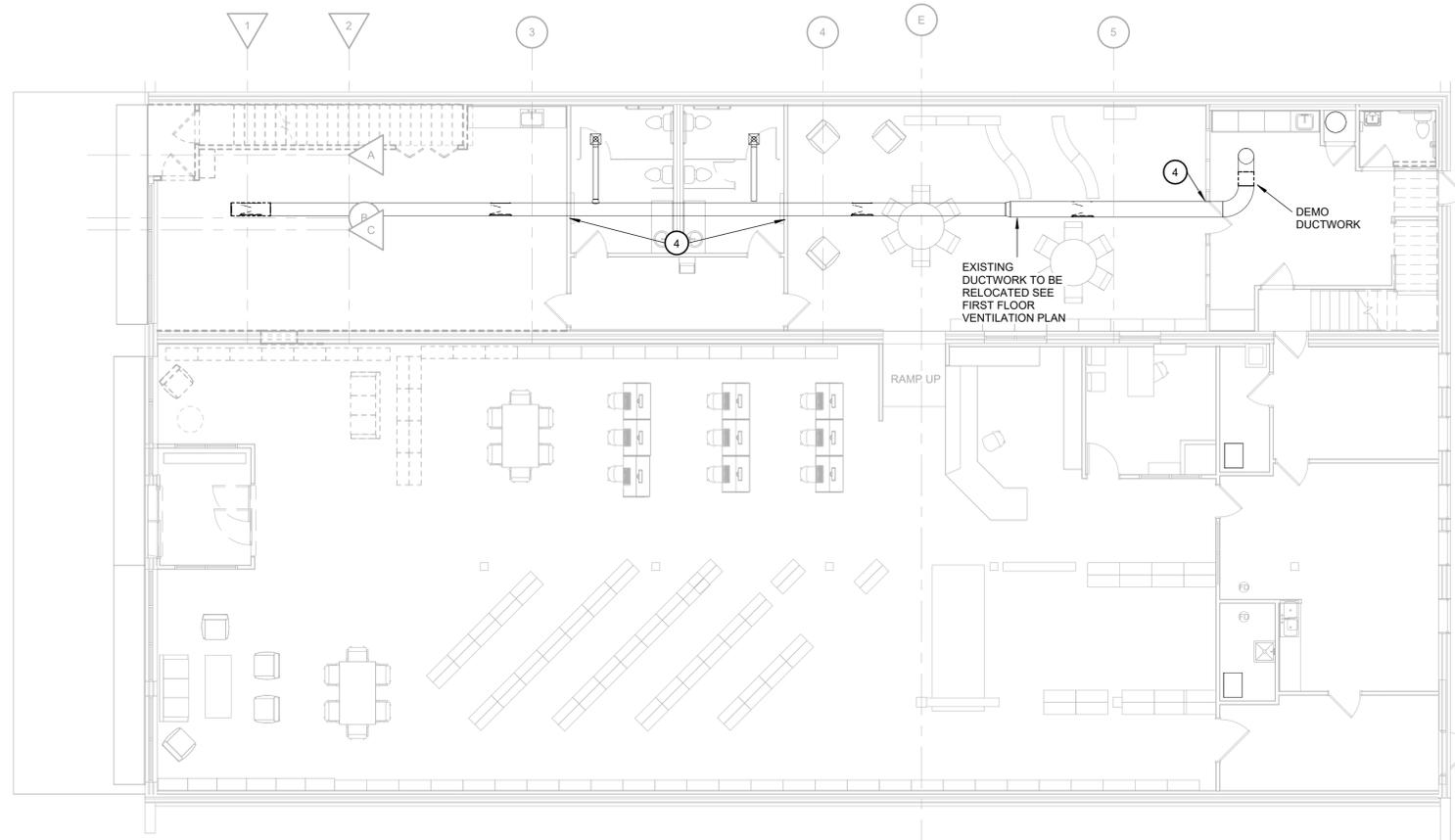
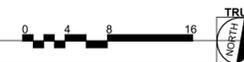
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1 FIRST FLOOR VENTILATION PLAN
SCALE: 1/8" = 1'-0"



2 FIRST FLOOR MECHANICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



KEYNOTES #

- 1 VERIFY EXISTING DUCT SIZE. USE NEW DUCTWORK OF THE SAME SIZE TO CONNECT RELOCATED DUCTWORK TO EXISTING DUCTWORK. NEW DUCTWORK TO ROUTE UNDER NEW STRUCTURAL BEAM.
- 2 VERIFY EXISTING DUCT SIZE. EXTEND DUCT TO CONNECT TO RELOCATED DUCT.
- 3 VERIFY EXISTING DUCT SIZE. EXTEND RELOCATED DUCT AND REUSE EXISTING AIR DIFFUSERS.
- 4 PATCH AND REPAIR EXISING WALL PENETRATIONS.



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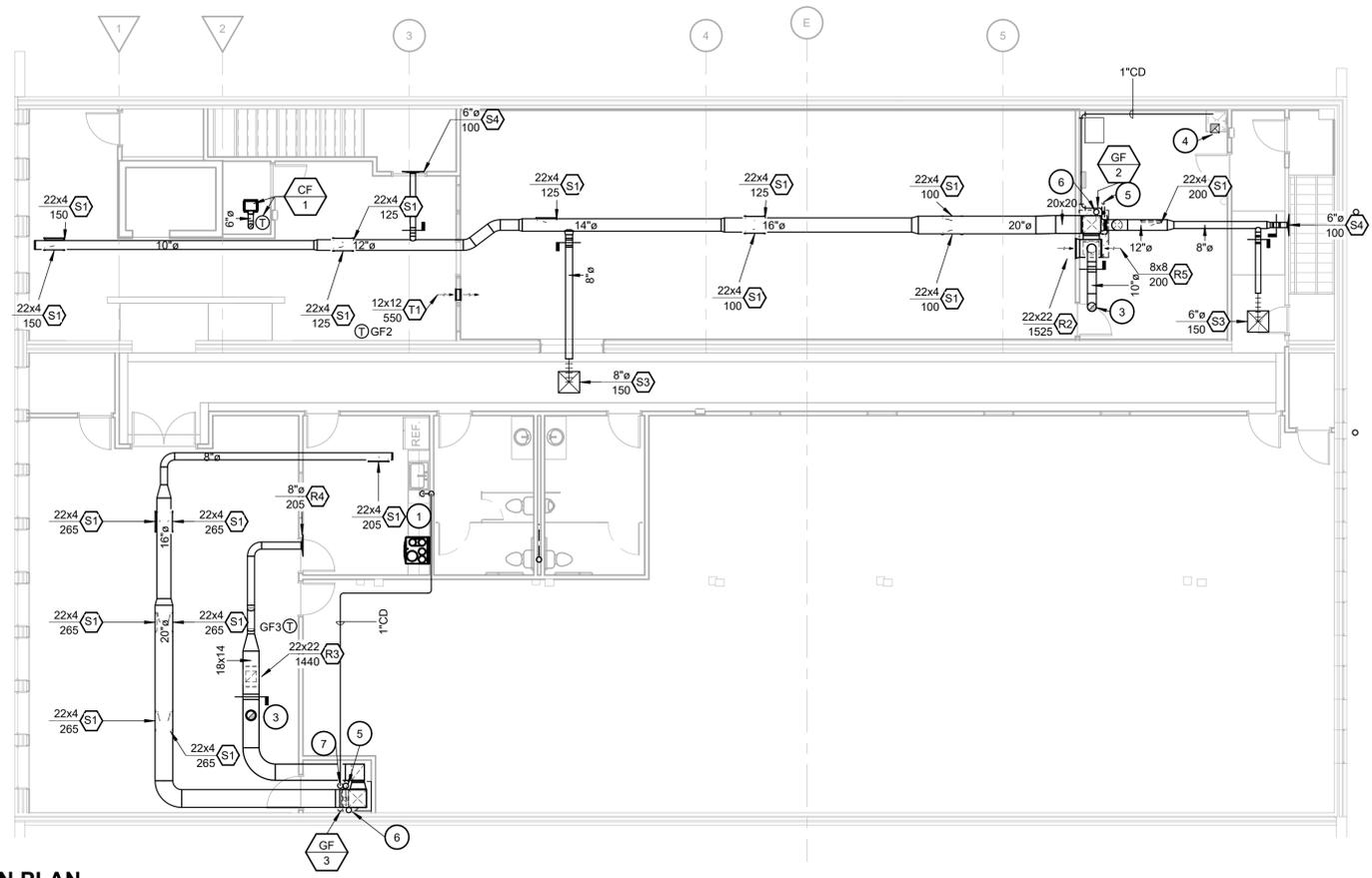
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FIRST FLOOR VENTILATION PLAN

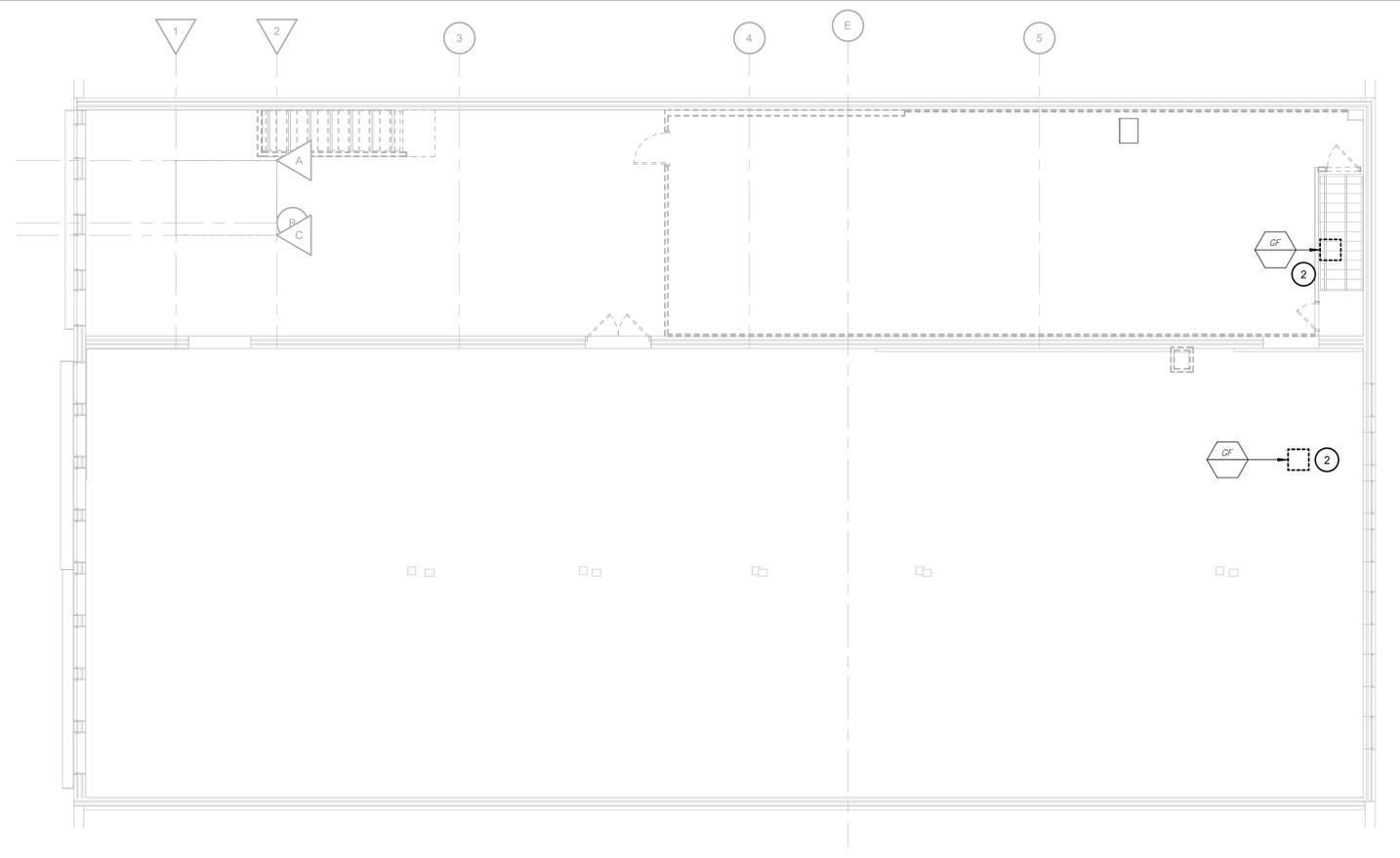
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M1.1

PROJECT NO.: 0230585.00



1 SECOND FLOOR VENTILATION PLAN
SCALE: 1/8" = 1'-0"



2 SECOND FLOOR MECHANICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



GENERAL NOTES

A. COORDINATE ROOF WARRANTIES WITH OWNER PRIOR TO ROOF PENETRATION WORK.

KEYNOTES #

- 1 CONNECT 1" CONDENSATE DOWN WALL TO UNDERSINK DRAIN WITH HUB AIR GAP CONNECTION.
- 2 REMOVE ABANDONED FURNACE AND ANY CONNECTED DUCTS, FLU VENTS ETC. CAP ASSOCIATED GAS PIPING.
- 3 10" OUTSIDE AIR DUCT INTAKE WITH MOTORIZED DAMPER UP DOWN FROM ROOF WITH BALANCING DAMPER CONNECTED INTO TOP OF RETURN DUCT.
- 4 10"x10" DUCT UP TO RELIEF HOOD.
- 5 CONCENTRIC FLUE VENT THROUGH ROOF.
- 6 1" G FROM ABOVE. CONNECT TO GAS FURNACE. FLEXIBLE PIPE CONNECTION AT GAS FURNACE BY P.C.
- 7 CP-1.



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SECOND FLOOR VENTILATION PLAN

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**ROOF MECHANICAL
PLAN**

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M1.4

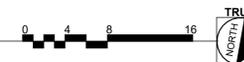
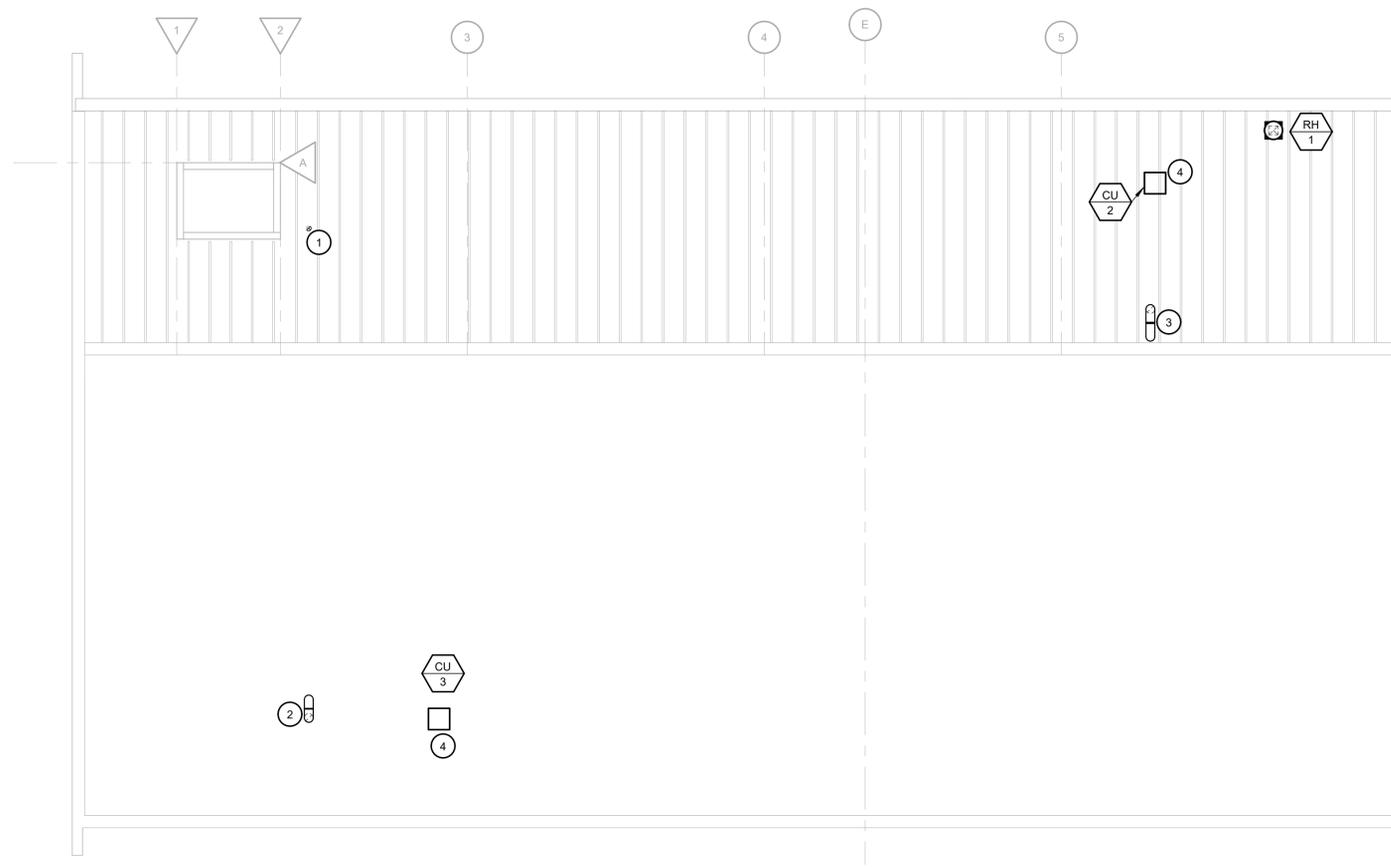
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GENERAL NOTES

A. COORDINATE ROOF WARRANTIES WITH OWNER PRIOR TO ROOF PENETRATION WORK.

KEYNOTES (#)

- 1 12" TALL ROOF CURB WITH GOOSNECK CAP FOR 6" EXHAUST DUCT DOWN TO CF-1
- 2 10" ROUND DUCT OA INTAKE WITH BIRD SCREEN. CONNECTED INTO RETURN DUCT OF GF-3.
- 3 10" ROUND DUCT OA INTAKE WITH BIRD SCREEN. CONNECTED INTO RETURN DUCT OF GF-2.
- 4 MOUNT CONDENSING UNITS ON 8" 'RPS ER-3A' STYLE EQUIPMENT CURB RAILS.



1 ROOF MECHANICAL PLAN
SCALE: 1/8" = 1'-0"

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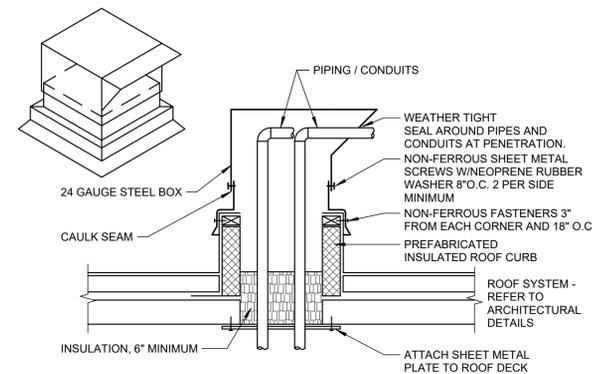
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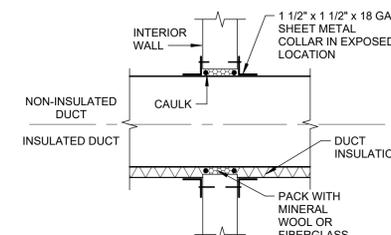
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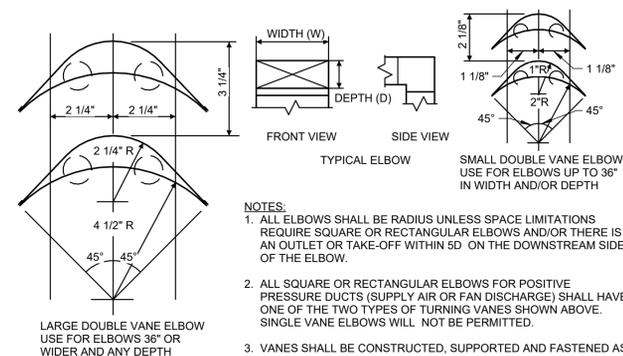
4 PREFABRICATED PIPE CURB (WITH STEEL BOX)

SCALE: No Scale



3 DUCT PENETRATION FOR NON-RATED WALLS

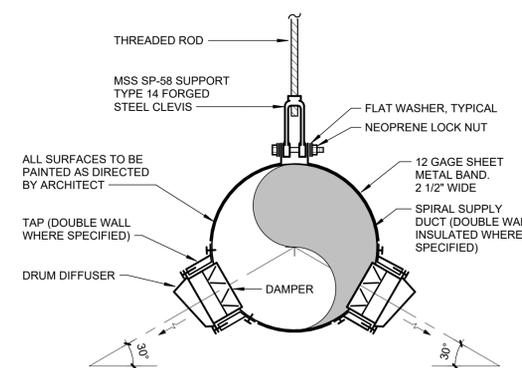
SCALE: No Scale



NOTES:
1. ALL ELBOWS SHALL BE RADIUS UNLESS SPACE LIMITATIONS REQUIRE SQUARE OR RECTANGULAR ELBOWS AND/OR THERE IS AN OUTLET OR TAKE-OFF WITHIN 5D ON THE DOWNSTREAM SIDE OF THE ELBOW.
2. ALL SQUARE OR RECTANGULAR ELBOWS FOR POSITIVE PRESSURE DUCTS (SUPPLY AIR OR FAN DISCHARGE) SHALL HAVE ONE OF THE TWO TYPES OF TURNING VANES SHOWN ABOVE. SINGLE VANE ELBOWS WILL NOT BE PERMITTED.
3. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.
4. TURNING VANES NOT ALLOWED IN NEGATIVE PRESSURE DUCTS (RETURN, EXHAUST, OR OUTDOOR AIR).

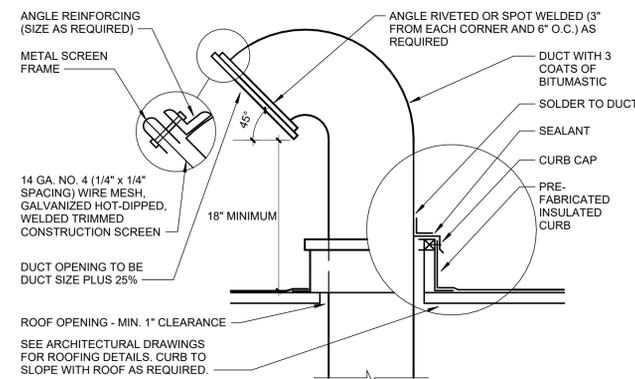
2 TURNING VANES

SCALE: No Scale



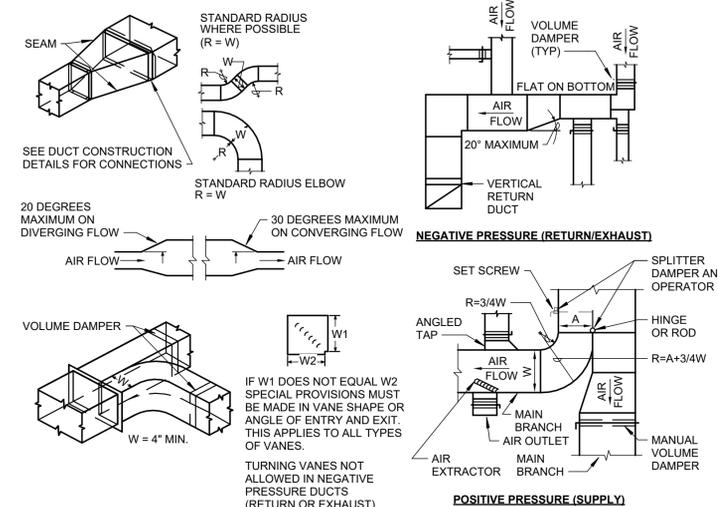
1 ROUND DUCT WITH DRUM DIFFUSERS

SCALE: No Scale



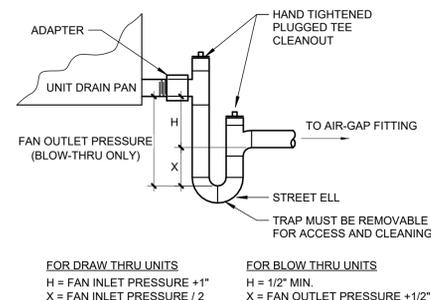
7 GOOSENECK THROUGH ROOF

SCALE: No Scale



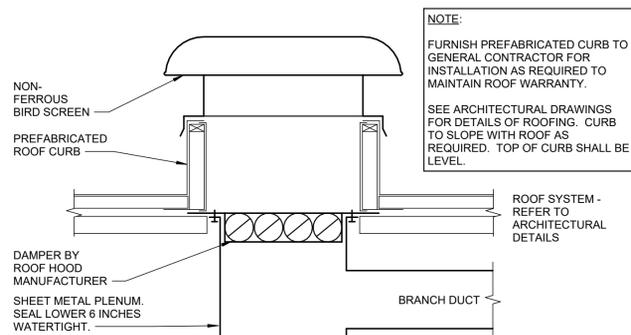
6 RECTANGULAR DUCT CONSTRUCTION

SCALE: No Scale



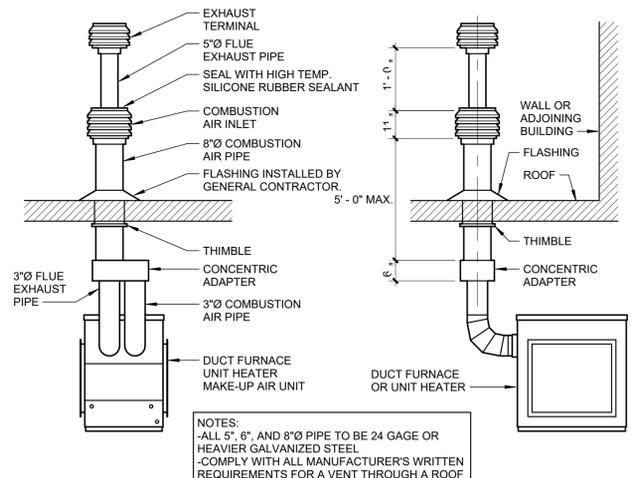
5 CONDENSATE DRAIN

SCALE: No Scale



9 ROOF HOOD

SCALE: No Scale



8 VERTICAL AIR INLET-VENT ASSEMBLY

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GAS FURNACE SCHEDULE

MARK	MANUFACTURER	MODEL	LOCATION	SERVICE	ARRANGEMENT	COND. UNIT MARK	BLOWER				HEATING SECTION			COOLING COIL SECTION					COND. DRAIN SIZE (IN.)	VENT PIPE DIA. (IN.)	FILTER			ELECTRICAL DATA				PHYSICAL DATA				REMARKS			
							CFM	MIN. OA CFM	ESP (IN. W.C.)	DRIVE	HP	FUEL	INPUT (MBH)	OUTPUT (MBH)	TYPE	MODEL	TOTAL MBH	SENSIBLE MBH			EDB (%ΔD F)	EWB (%ΔD F)	TYPE	MERV	THICK. (IN.)	MAX. FACE VEL. (FPM)	V/PH	FLA	MCA	MOCP	L (IN.)		W (IN.)	H (IN.)	WT. (LB.)
GF2	TRANE	S9X2C080U5PSBA	2ND FLOOR	GEONOLGY/STORAGE	UPFLOW	CU-2	1800	350	0.5	DIRECT	1	N.GAS	80	77.8	DX-R410A	4TXCC009DS3HCB	45.8	34.7	79	69	1	3	HIGH VELOCITY	8	2	600	120/1	11.26	14.1	15	30	30	64	209	
GF3	TRANE	S9X2C080U5PSBA	2ND FLOOR	GEONOLGY/STORAGE	UPFLOW	CU-2	1800	150	0.5	DIRECT	1	N.GAS	80	77.8	DX-R410A	4TXCC009DS3HCB	46.8	39.6	79	69	1	3	HIGH VELOCITY	8	2	600	120/1	11.26	14.1	15	30	30	64	209	

NOTES:

CONDENSING UNIT SCHEDULE

MARK	MANUFACTURER	MODEL	SERVICE	AMBIENT TEMP. (%ΔDF)	REFRIG. TYPE	NOM. CAP. (TONS)	STEPS	SEER2	COMPRESSOR			FAN		ELECTRICAL DATA			PHYSICAL DATA				REMARKS
									QTY.	RLA EACH	FLA EACH	V/PH	MCA	MOCP	L (IN.)	W (IN.)	H (IN.)	WT. (LB.)			
CU2	TRANE	4TTR4060N1000A	GF2	95	R410A	4	1	14	1	21.9	1	0.97	208/1	28	50	946	870	219	277		
CU3	TRANE	4TTR4060N1000A	GF3	95	R410A	4	1	14	1	21.9	1	0.97	208/2	28	50	946	870	219	277		

NOTES:

CEILING FAN SCHEDULE

MARK	MANUFACTURER	MODEL	LOCATION	FINISH	CFM	ELECTRICAL DATA					REMARKS
						V/PH	FLA	MCA	MOCP	WT. (LB.)	
CF1	GREENHECK	SP-A90	ELEVATOR ELECTRIC ROOM	GALVANIZED	100	115/1	0.17	0.2	15	12	1

NOTES: 1.CONTRACTOR PROVIDE LINE VOLTAGE 115V TO THERMOSTAT TO CONTROL FAN.

ROOF HOOD GRAVITY RELIEF VENTILATOR SCHEDULE

MARK	MANUFACTURER	MODEL	SERVICE	TYPE	CFM	TSP (IN. W.C.)	THROAT			ROOF CURB		REMARKS
							D (IN.)	AREA (SF)	VEL. (FPM)	L (IN.)	W (IN.)	
RH1	GREENHECK	GRSR-10	GF3	RELIEF	350	0.04	10	0.57	432	17.5	17.5	1-5

NOTES: 1. PROVIDE MIN. 12" TALL CURB.
2. INTEGRAL BIRDSCREEN.
3. PROVIDE BACKDRAFT DAMPER AND BAROMETRIC RELIEF DAMPER TO START TO OPEN AT 0.05" W.C BUILDING PRESSURE.
4. EXTERIOR COLOR BLACK.
5. FLANGE FOR DUCTED CONNECTION.

PUMP SCHEDULE

MARK	MANUFACTURER	MODEL	LOCATION	SERVICE	FLOW (GPM)	MAX LIFT HEIGHT (FT. W.C.)	ELECTRICAL DATA			PHYSICAL DATA				REMARKS
							HP	V/PH	MCA	L (IN.)	W (IN.)	H (IN.)	WT. (LB.)	
CP1	DIVERSITECH	ASURITY PROCP-16	GF-3	CONDENSATE	1.2	16	1/50	120/1	1.9	12	6	6.6	5	

NOTES:

AIR DEVICE SCHEDULE

MARK	MANUFACTURER	MODEL	SERVICE	STYLE	MAX. N.C.	MAX. AIR P.D. (IN. W.C.)	MODULE SIZE	FRAME	FINISH	MATERIAL	REMARKS
S1	TITUS	S301FL	SUPPLY	DRUM	15	0.05	22X4	DUCT MTD	WHITE	ALUMINUM	3
S2	TITUS	S301FL	SUPPLY	DRUM	15	0.1	12X3	DUCT MTD	WHITE	ALUMINUM	3
S3	TITUS	OMNI	SUPPLY	PLAQUE	15	0.05	24X24	LAY-IN	WHITE	ALUMINUM	
S4	TITUS	272FL	SUPPLY	PLAQUE	20	0.1	12X12	SURFACE	WHITE	ALUMINUM	
S5	TITUS	TMR	SUPPLY	LOUVER	15	0.01	16	DUCT MTD	WHITE	ALUMINUM	
R1	TITUS	50F	RETURN	PERFORATED	30	0.1	24X24	LAY-IN	WHITE	ALUMINUM	
R2	TITUS	50F	RETURN	PERFORATED	20	0.1	24X24	SURFACE	WHITE	ALUMINUM	2
R3	TITUS	350ZFS	RETURN	LOUVER	20	0.1	24X24	DUCT MTD	WHITE	ALUMINUM	2
R4	TITUS	350ZFS	RETURN	LOUVER	20	0.1	12X24	SURFACE	WHITE	ALUMINUM	3
R5	TITUS	350ZFS	RETURN	LOUVER	20	0.1	24X24	DUCT MTD	WHITE	ALUMINUM	2
T1	TITUS	300FL	TRANSFER	LOUVER	15	0.1	12X12	SURFACE	WHITE	ALUMINUM	

NOTES: 1.
2. EQUIP WITH VOLUME DAMPER FOR AIR BALANCING.
3. EQUIP WITH VOLUME DAMPER EXTRACTOR FOR AIR BALANCING.

SEQUENCE OF OPERATION - GAS FURNACE-GF-2 (TYPICAL OF 2)

RUN CONDITIONS - SCHEDULED:
THE FAN SHALL RUN CONTINUOUSLY WHEN IN OCCUPIED MODE ACCORDING TO A USER DEFINABLE SCHEDULE TO ALLOW FOR VENTILATION.

FAN:
THE FAN SHALL RUN CONTINUOUSLY WHEN IN OCCUPIED MODE. WHEN NOT IN OCCUPIED MODE FAN SHALL RUN WHEN COOLING OR HEATING IS CALLED FOR BASED ON UNOCCUPIED TEMPERATURE SETPOINTS.

FURNACE HEATING:
WHEN THERMOSTAT TEMPERATURE DROPS BELOW SETPOINT FURNACE TO ACTIVATE HEATING. WHEN SETPOINT IS REACHED FURNACE TO GO INTO STANDBY.

COOLING:
WHEN THERMOSTAT TEMPERATURE GOES ABOVE SETPOINT COOLING IS ACTIVATED. SIGNAL SENT TO ACTIVATE CONDENSING UNIT TO RUN UNTIL SETPOINT IS SATISFIED WITH A MINIMUM RUNTIME.

FAN STATUS:
THE CONTROLLER SHALL MONITOR THE FAN STATUS.

DEFINABLE LIMIT (ADJ.).

SEQUENCE OF OPERATION - CEILING FAN-CF-1 (TYPICAL OF 1)

FAN:
THE FAN SHALL BE CONTROLLED BY WALL MOUNTED THERMOSTAT.

TEMPERATURE CONTROL ACTIVATION:
WHEN THERMOSTAT TEMPERATURE REACHES 85°F THERMOSTAT TO ACTIVATE FAN.

TEMPERATURE CONTROL ACTIVATION:
WHEN THERMOSTAT TEMPERATURE FALLS BELOW 85 °F THERMOSTAT SIGNALS FAN TO TURN OFF.

STANDBY MODE:
THE FAN ENTERS A STANDBY MODE READY TO BE ACTIVATED AGAIN WHEN THE TEMPERATURE RISES ABOVE THE SET POINT.

FAN STATUS:
THE CONTROLLER SHALL MONITOR THE FAN STATUS.

DEFINABLE LIMIT (ADJ.).

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SCHEDULES

SHEET NUMBER:

M6.1

PROJECT NO.: 0230585.00

GENERAL NOTES

COMMON REQUIREMENTS:

- A. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, ELEVATIONS, AND BUILDING DETAILS. VERIFY LOCATION OF ALL WALL OUTLETS, SWITCHES, ETC., WITH ARCHITECTURAL DRAWINGS AND ACTUAL CONDITIONS.
- B. PRIOR TO ROUGH-IN AND FINAL CONNECTION OF EQUIPMENT, VERIFY ELECTRICAL REQUIREMENTS OF EQUIPMENT WITH OTHER TRADES CONSTRUCTION DOCUMENTS AND FINALIZED SHOP DRAWINGS. VERIFICATION SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING: VOLTAGE, AMPERAGE, TOTAL LOAD, OVER-CURRENT PROTECTION REQUIREMENTS, MOUNTING HEIGHT OF ELECTRICAL CONNECTION, CABLE TYPE AND SIZE, WIRING DIAGRAMS.
- C. COORDINATE SCHEDULE OF CONSTRUCTION WITH THE OWNER, OTHER TRADES AND UTILITIES INVOLVED BEFORE TRENCHING AND INSTALLATION OF UNDERGROUND CONDUIT. USE EXTREME CAUTION DURING EXCAVATION TO LOCATE EXISTING UNDERGROUND PIPING, CONDUITS, ETC. LOCATE AND PROTECT ANY BURIED UTILITIES IN AREAS OF EXCAVATION.
- D. GROUT AND SEAL ALL CONDUIT PENETRATIONS OF WALLS AND FLOOR SLABS TO PRESERVE FIRE RATING AND WATERTIGHT INTEGRITY.
- E. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR ACTUAL LAYOUT OF LUMINAIRES AND CEILING TYPES. VERIFY CEILING TYPES PRIOR TO ORDERING LUMINAIRES.
- F. REFER TO ARCHITECTURAL PLANS TO CONFIRM ALL FIRE-RATED CEILINGS AND WALLS.
 - 1. ALL PENETRATIONS OF FIRE-RESISTIVE FLOORS OR SHAFT WALLS SHALL BE PROTECTED BY MATERIALS AND INSTALLATION DETAILS THAT CONFORM TO UNDERWRITERS' LABORATORIES LISTINGS FOR "THROUGH-PENETRATION FIRE STOP SYSTEMS." THE CONTRACTOR SHALL SUBMIT SHOP DRAWING DETAILS, FURNISHED BY THE MANUFACTURER OF THE FIRE STOP MATERIAL, WHICH SHOW COMPLETE CONFORMANCE TO THE UL LISTING AND SHALL BE SPECIFIC FOR EACH PENETRATION WITH ALL VARIABLES DEFINED. THESE FINAL AND APPROVED DRAWINGS SHALL BE READILY AVAILABLE TO THE LOCAL INSPECTORS AT ALL TIMES AT THE PROJECT SITE.
- G. PRIOR TO ANY ROUGH-IN FOR ELECTRIC WATER COOLER RECEPTACLES, COORDINATE WITH THE ELECTRIC WATER COOLER INSTALLER THE EXACT LOCATION SO THAT THE ENTIRE ELECTRIC CORD WILL BE CONCEALED FROM ELECTRIC WATER COOLER TO RECEPTACLE.
- H. ALL LIGHT FIXTURES SHALL BE EQUIPPED WITH A GREEN GROUND WIRE BONDED TO THE HOUSING.
 - I. FINISH OF ALL LIGHTING FIXTURES IS SUBJECT TO ARCHITECT'S APPROVAL. SUBMIT SAMPLES IF REQUESTED.
- J. ALL LUMINAIRES WITH EMERGENCY BATTERIES SHALL HAVE THE BATTERY CHARGER CIRCUITED TO THE AMBIENT LIGHTING CIRCUIT IN THE SPACE BUT SHALL BE UNSWITCHED. IF THE LUMINAIRE IS INDICATED AS SWITCHED, ONLY THE LUMINAIRE SHALL BE CONTROLLED BY THE SWITCHED CONDUCTORS (BATTERY CHARGER SHALL REMAIN UNSWITCHED).
- K. THE ELECTRICAL CONTRACTOR SHALL BE HELD FINANCIALLY RESPONSIBLE FOR ANY AND ALL COSTS OF THE ENGINEERS TIME REQUIRED TO REVIEW AND RESEARCH NON-SPECIFIED EQUIPMENT SUBMITTED FOR SUBSTITUTION BY THE ELECTRICAL CONTRACTOR. THESE COSTS SHALL BE AUTOMATICALLY INVOICED TO THE CONTRACTOR UNLESS SUCH SUBSTITUTIONS FOLLOW THE GUIDELINES FOR SUBSTITUTION AND ARE WITHIN THE PROPER TIME FRAME AS OUTLINED IN OTHER SECTIONS OF THIS SPECIFICATION.
- L. FIELD ADJUST ALL LUMINAIRES REQUIRING AIMING WITH THE OWNER PRESENT AND TO THEIR SATISFACTION.
- M. ON LINEAR WALL SLOT LUMINAIRES, LAMPS SHALL BE CONTINUOUS INCLUDING CORNERS.
- N. PROVIDE AND INSTALL IN EACH PANEL, TYPEWRITTEN NEAT TWO-COLUMN CIRCUIT INDEX CARD SET UNDER PLASTIC COVERS ON INSIDE OF DOORS. EACH ODD-NUMBERED CIRCUIT SHALL BE IN SEQUENCE ON ONE COLUMN AND THE EVEN-NUMBERED CIRCUITS ON THE OTHER COLUMN (E.G. 1,3,5...2,4,6...). EACH CIRCUIT SHALL BE IDENTIFIED AS TO THE USE AND ROOM NAME(S) OR AREA(S). THE CONTRACTOR SHALL CONFIRM ROOM NAMES AND/OR ROOM NUMBERS WITH THE ARCHITECT PRIOR TO PROJECT COMPLETION.
- O. FROM EACH FLUSH MOUNTED PANEL STUB (2) 3/4" AND (1) 1" INTO NEAREST ACCESSIBLE CEILING SPACE.
- P. PRIOR TO SUBMITTING BID PROPOSAL, BIDDER SHALL EXAMINE ALL GENERAL CONSTRUCTION DRAWINGS AND VISIT CONSTRUCTION SITE TO BE FAMILIAR WITH EXISTING CONDITIONS UNDER WHICH THEY WILL HAVE TO OPERATE AND WHICH WILL IN ANY WAY AFFECT THE WORK UNDER THIS CONTRACT. NO SUBSEQUENT ALLOWANCE WILL BE MADE IN THIS CONNECTION ON BEHALF OF THE CONTRACTOR FOR ANY ERROR OR NEGLIGENCE ON HIS PART.
- Q. ELEVATOR SYSTEM: THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY, COORDINATE AND CONFIRM WITH THE ELEVATOR EQUIPMENT INSTALLER ALL THE FOLLOWING:
 - 1. PROVIDE A TOGGLE SWITCH, 120V DUPLEX RECEPTACLE AND LUMINAIRE DOWN IN ELEVATOR PIT FOR MAINTENANCE AND SERVICE (CONFIRM EXACT LOCATIONS PRIOR TO ROUGH-IN).
 - 2. PROVIDE A TELEPHONE OUTLET AND 120V POWER JUNCTION BOX IN LOCATION DESIGNATED BY THE ELEVATOR SHOP DRAWINGS.
 - 3. PROVIDE A SEPARATE 120V CONTROL CIRCUIT FOR ELEVATOR CAR LIGHTS, ALARM, ETC.
- R. CONTRACTOR SHALL NOT SCALE DRAWING FOR QUANTITIES. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL MEASUREMENTS.
- S. IF POSSIBLE, ALL NEWLY INSTALLED RECEPTACLES SHALL BE INSTALLED IN SEPARATE OR ADJACENT STUD SPACES, TO AVOID SOUND TRANSMISSION AND WALL INTEGRITY ISSUES. ALL NEWLY INSTALLED RECEPTACLES LOCATED IN COMMON STUD SPACES OF FIRE-RESISTANT WALLS SHALL BE EQUIPPED WITH FIRE-RESISTANT PUTTY PADS AT THE BACK OF EACH BOX IN ACCORDANCE WITH NEC.
- T. PROVIDE PROTECTIVE WIRE CAGES FOR ALL OVERHEAD SUSPENDED LIGHTS, EXIT LIGHTS, WALL MOUNTED EMERGENCY LIGHTS, FIRE ALARM MANUAL PULL STATIONS, FIRE ALARM AUDIBLE VISUAL DEVICES, FIRE ALARM VISUAL DEVICES AND ANY OTHER WALL MOUNTED ELECTRICAL EQUIPMENT SUBJECT TO DAMAGE IN GYMNASIUMS.
- U. SECURE ALL LOW VOLTAGE DATA, SIGNALING AND CONTROL WIRING TO THE STRUCTURE AT INTERVALS NO MORE THAN 4 FEET.
- V. ALL FLOOR MOUNTED SWITCH GEAR, UNIT SUBSTATIONS, BOXES AND TRANSFORMERS LARGER THAN 75 KVA SHALL BE INSTALLED ON A NOMINAL 4" HOUSEKEEPING PAD. PAD SHALL EXTEND FROM ELECTRICAL EQUIPMENT 6" IN ANY DIRECTION.
- W. WHERE CONDUIT AND WIRING RUNS ARE NOT SHOWN ON FLOOR PLANS, THE CONTRACTOR SHALL DETERMINE AND PROVIDE THE REQUIRED CONDUIT AND WIRING FOR SPECIFIED CIRCUITING IN ACCORDANCE WITH NEC AND THE FOLLOWING MINIMUM REQUIREMENTS:
 - 1. MINIMUM CONDUIT SIZE SHALL BE 3/4".
 - 2. MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG. #10 AWG SHALL BE USED FOR HOME RUNS OF 20 AMP BRANCH CIRCUITS OVER 100 FEET IN LENGTH.
 - 3. EACH RACEWAY SHALL CONTAIN AN INSULATED EQUIPMENT GROUNDING CONDUCTOR PER NEC.
 - 4. DERATING OF CONDUCTOR AMPACITY SHALL BE APPLIED PER NEC.
 - 5. NO SHARING OF NEUTRALS ALLOWED. CIRCUIT SHALL HAVE DEDICATED NEUTRAL CONDUCTORS. ONE CIRCUIT, ONE NEUTRAL.
 - 6. MAXIMUM SIX FOOT FLEXIBLE LUMINAIRE WHIP SHALL BE USED FOR FINAL CONNECTIONS TO LIGHT FIXTURES INSTALLED IN LAY-IN CEILINGS. MAXIMUM FOUR LUMINAIRE WHIPS SHALL BE CONNECTED FROM ONE JUNCTION BOX. FEED THRU BETWEEN LUMINAIRES SHALL NOT BE ALLOWED.
 - a. EXCEPTION: ALL RECESSED LUMINAIRES IN HARD CEILINGS SHALL HAVE FEED-THRU JUNCTION BOXES.

RENOVATION NOTES:

- A. RENOVATION OF ELECTRICAL FACILITIES WILL BE REQUIRED IN THE EXISTING BUILDING. EXISTING CONDUIT RUNS ARE GENERALLY NOT SHOWN, ALTHOUGH A FULL ATTEMPT HAS BEEN MADE TO SHOW SOME EXISTING CONDITIONS, OF WHICH INFORMATION HAS BEEN TAKEN FROM EXISTING RECORD DRAWINGS OF THIS PROJECT. THE DRAWINGS SHOWING LOCATION OF EXISTING EQUIPMENT, OUTLETS, LUMINAIRES, ETC., IN EXISTING AREAS ARE APPROXIMATE ONLY.
 - 1. DRAWINGS SHOW EXISTING CONDITIONS OF THE SITE. AN ATTEMPT HAS BEEN MADE TO SHOW EXISTING BUILDING, SITE DETAILS, ETC., BUT ACCURACY CANNOT BE GUARANTEED. VERIFY EXACT LOCATIONS OF ALL CIRCUITS, CONDUITS, PIPING, EQUIPMENT, ETC. VERIFY ALL SITE AND BUILDING DETAILS.
- B. BRANCH CIRCUITS SHALL BE REUSED WHERE PRACTICAL AND SHALL, IN ADDITION, BE REMODELED AS REQUIRED. THE CONTRACTOR SHALL CONCEAL ALL WORK WHERE POSSIBLE. WHERE EXPOSED WORK IS REQUIRED IN FINISHED AREAS, THE CONTRACTOR SHALL USE WIREMOLD RACEWAY WITH #800 BEING THE MINIMUM SIZE ACCEPTABLE.
- C. EXISTING ELECTRICAL WIRING WHICH WILL NOT BE MADE OBSOLETE AND WHICH WILL BE DISTURBED DUE TO CONSTRUCTION CHANGES REQUIRED BY THIS CONTRACT SHALL BE RESTORED TO OPERATING CONDITION, AS REQUIRED AND/OR DIRECTED. WHERE REQUIRED, SHOWN AND/OR DIRECTED. OUTLETS AND CONDUIT RUNS SHALL BE RELOCATED. IN SOME CASES IT MAY BE NECESSARY TO EXTEND CONDUITS AND PULL IN NEW WIRING OR INSTALL JUNCTION BOXES AND SPLICE IN NEW WIRING OR REPLACE OLD WIRING WITH NEW.
- D. OUTLETS FROM WHICH LUMINAIRES, SWITCHES, RECEPTACLES, AND/OR OTHER ELECTRICAL DEVICES ARE MOVED AND WHICH ARE NOT REPLACED OR REUSED SHALL BE REMOVED OR, IF IT IS NOT POSSIBLE TO REMOVE, PLACE A BLANK COVER ON THE OUTLET BOX. WHERE OUTLETS, BOXES, ETC., ARE COMPLETELY REMOVED, THE CONTRACTOR SHALL CUT OFF CONDUITS AND REMOVE WIRING.
- E. WHERE EXISTING LUMINAIRES ARE TO BE REUSED, THE ELECTRICAL CONTRACTOR SHALL CLEAN AND REPLACE LAMPS, REPAIR OR REPLACE DEFECTIVE PARTS, LENS, BALLAST, ETC. AS REQUIRED.
- F. WHERE EXISTING CONDUIT IS TO BE ABANDONED, THE CONDUIT SHALL BE REMOVED IF IT IS EXPOSED, IN A CRAWL SPACE OR IN AN ACCESSIBLE CEILING. WHERE IT IS IMPOSSIBLE TO REMOVE THE CONDUIT, IT SHALL BE CUT OFF AND CAPPED OR PLUGGED, THAT IT WILL NOT PROTRUDE BEYOND THE FINISHED SURFACE. WHERE CONDUITS EXTENDING THROUGH FLOORS ARE TO BE ABANDONED, THE CONTRACTOR SHALL CUT AND CAP OR PLUG CONDUIT, THAT IT WILL NOT PROTRUDE ABOVE THE FLOOR.
- G. THE CONTRACTOR SHALL BE HELD FULLY RESPONSIBLE FOR THE PROPER RESTORATION OF ALL EXISTING SURFACES REQUIRING PATCHING, PLASTERING, PAINTING AND/OR OTHER REPAIR DUE TO THE INSTALLATION OF ELECTRICAL WORK UNDER THE TERMS OF THIS SPECIFICATION. CLOSE ALL OPENINGS, REPAIR ALL SURFACES, ETC., AS REQUIRED. THE CONTRACTOR SHALL EMPLOY QUALIFIED AND EXPERIENCED WORKMEN FOR THIS WORK. ALL RESTORATION WORK SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT AND/OR THE OWNER.
- H. ALL TEMPORARY AND REMODELING WORK SHALL BE CONSIDERED A PART OF THIS CONTRACT AND NO EXTRA CHARGES WILL BE ALLOWED. THIS SHALL INCLUDE MINOR ITEMS OF MATERIAL OR EQUIPMENT NECESSARY TO MEET THE REQUIREMENTS AND INTENT OF THE PROJECT.
 - I. EXAMINE ARCHITECTURAL, STRUCTURAL, AND MECHANICAL DRAWINGS AND SPECIFICATIONS TO DETERMINE THE SEQUENCE OF SUBSTITUTION THROUGHOUT THE PROJECT, INCLUDING EXISTING, TEMPORARY, REMODELED AND NEW AREAS.
 - J. ALL ELECTRICAL CONNECTIONS REQUIRING AN OUTAGE SHALL BE MADE DURING AN APPROVED TIME LIMIT. CHANGEOVERS SHALL BE AS SHORT A DURATION AS POSSIBLE AND SHALL NOT INTERFERE WITH NORMAL OPERATION OF THE OWNER'S FACILITIES. NOTICE SHALL BE REQUIRED IN ADVANCE OF A SHUTDOWN OF ANY ELECTRICAL CIRCUIT FOR CHANGEOVER, AND SUCH A CHANGEOVER SHALL BE DONE DURING HOURS AS DIRECTED BY OWNER. WORK SHALL BE SCHEDULED SO THAT AT NO TIME WILL ANY EMERGENCY FEEDER, CIRCUIT, OR FIRE ALARM ZONE BE OUT OF SERVICE. PROVIDE NECESSARY TEMPORARY FEEDERS TO ACCOMPLISH THIS REQUIREMENT.
- K. EXISTING LOW VOLTAGE WIRING WHICH WILL NOT BE MADE OBSOLETE AND WHICH WILL BE DISTURBED DUE TO CONSTRUCTION CHANGES REQUIRED BY THIS CONTRACT SHALL BE RESTORED TO CONDITION, OR POSITION, AS REQUIRED. PROPERLY RE-SECURE CABLE IN CHASES, CRAWL SPACES, TUNNELS, AND CEILING SPACES AS REQUIRED BY NEC. IN SOME CASES IT MAY BE NECESSARY TO ADD SUPPORTING HARDWARE TO ACCOMPLISH THIS REQUIREMENT.

DEMOLITION:

- A. RETURN REMOVED MATERIAL DEEMED SALVAGEABLE BY OWNER'S REPRESENTATIVE. MATERIALS DEEMED NOT SALVAGEABLE SHALL BE REMOVED FROM THE PREMISES.
- B. REMOVE ALL EXISTING WIRING DEVICES, LUMINAIRES, WIRE, CONDUIT, ETC., AS NOTED OR INDICATED WITHIN DEMOLITION AREA. (ALL ITEMS MAY NOT BE SHOWN). REWORK AS NECESSARY CIRCUITING WHICH REQUIRES CONTINUATION THROUGH THE AREA.
- C. ELECTRICAL CONTRACTOR TO PROVIDE ALL NECESSARY LABOR, CONDUIT, WIRE, CONNECTIONS, ETC., FOR DEVICES, LUMINAIRES, ETC., NOTED AS "EXISTING TO REMAIN" SUCH THAT EXISTING CIRCUIT CONTINUITY IS MAINTAINED.
- D. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK REQUIRED TO REMOVE/RELOCATE ANY EXISTING ELECTRICAL EQUIPMENT SUCH THAT ELECTRIC SHOCK HAZARDS TO WORKMEN ARE ELIMINATED DURING DEMOLITION AND NEW CONSTRUCTION.
- E. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK IN REMOVING AND REPLACING "EXISTING TO REMAIN" LUMINAIRES, DEVICES, ETC., AS REQUIRED SO THAT THESE DEVICES ARE NOT DAMAGED DURING DEMOLITION. RELOCATED TO NEAREST APPROPRIATE LOCATION TO AVOID CONFLICTS WITH OTHER TRADES' WORK. REPLACE WITH NEW ANY "EXISTING TO REMAIN" LUMINAIRE, DEVICE, ETC., NOT DEEMED SALVAGEABLE BY OWNER'S REPRESENTATIVE.
- F. REMOVED OR DAMAGED CONDUIT, WIRE, AND FITTINGS SHALL NOT BE REUSED FOR RELOCATED OR NEW DEVICES.
- G. MAKE AS-BUILTS WITH NEW TYPED DIRECTORIES FOR ALL PANELBOARDS, INDICATING CIRCUIT DESCRIPTION (USED OR SPARE), CIRCUIT BREAKERS AND CIRCUIT LOAD.
- H. WORK REQUIRED FOR EXISTING EQUIPMENT NOTED AS "EXISTING TO BE REMOVED" SHALL INCLUDE:
 - 1. REMOVAL OF FEEDER FROM EQUIPMENT TO POINT OF FEED.
 - 2. REMOVAL OR RE-CIRCUITING OF ALL BRANCH CIRCUITING.
 - 3. REMOVAL OF ALL FITTINGS, SUPPORTS, BRACKETS, ETC.
 - 4. PATCHING OF WALLS, FLOORS AND CEILINGS PER ARCHITECT'S INSTRUCTIONS.
 - 5. CAPPING OF FEEDER CONDUIT AT 6" ABOVE OR BELOW FLOOR/CEILING AS REQUIRED AND MARKING LOCATION OF POINT OF FEED WITH AN ENGRAVED BRASS TAG.
 - 6. REMOVAL OF FEEDER CONDUIT IF FOUND TO BE UNSALVAGEABLE BY ARCHITECT, ENGINEER OR OWNER'S REPRESENTATIVE.
- I. EXISTING EQUIPMENT NOT IMPLICITLY SHOWN ON THE DRAWINGS IS INTENDED TO BE "EXISTING TO REMAIN UNCHANGED", UNLESS NOTED OTHERWISE.

ABBREVIATIONS

%Z	IMPEDANCE	MCC	MOTOR CONTROL CENTER
(E)	EXISTING (ALSO COVERED BY TEXT WEIGHT)	MCP	MOTOR CIRCUIT PROTECTOR
(F)	FUTURE	MDF	MAIN DISTRIBUTION FRAME
(PART)	PARTIAL CIRCUIT	MDP	MAIN DISTRIBUTION PANEL
(R)	RELOCATE	MEPFP	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION
A	AMPERES	MGB	MASTER GROUND BAR
AC	6" ABOVE COUNTER	MH	METAL HALIDE
ADA	AMERICANS WITH DISABILITIES ACT	MIN	MINIMUM
AF	AMPERES FRAME	MLO	MAIN LUG ONLY
AFCI	ARC FAULT CIRCUIT INTERRUPTER	MOCOP	MAXIMUM OVERCURRENT PROTECTION
AFB	ABOVE FINISHED FLOOR	MSB	MAIN SWITCHBOARD
AFG	ABOVE FINISHED GRADE	MTG	MOUNTING
AHJ	AUTHORITY HAVING JURISDICTION	MTS	MANUAL TRANSFER SWITCH
AIC	AMPERES INTERRUPTION CAPACITY	MVA	MEGAVOLT-AMPERES
AL	ALUMINUM	MW	MEGAWATT
AT	AMPERES TRIP	MWH	MEGAWATT-HOURS
ATS	AUTOMATIC TRANSFER SWITCH	N	NEUTRAL
AWG	AMERICAN WIRE GAUGE	N/A	NOT APPLICABLE
BMS	BUILDING MANAGEMENT SYSTEM	NC	NORMALLY CLOSED
C	CAMERA	NEC	NATIONAL ELECTRIC CODE
CAM	CIRCUIT BREAKER	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
CB	CIRCUIT BREAKER	NF	NON-FUSED
CCTV	COUNTER CLOCKWISE	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
CCW	CLOCKWISE	NIC	NOT IN CONTRACT
CKT	CIRCUIT	NL	NIGHT LIGHT
CL	CENTER LINE	NO	NORMALLY OPEN
CLG	CEILING	NP	NAMEPLATE
CO	CONDUIT ONLY	NTS	NOT TO SCALE
ORI	COLOR RENDERING INDEX	OC	ON CENTER
CT	CURRENT TRANSFORMER	OD	OUTSIDE DIAMETER
CJ	COPPER	OH	OVERHEAD
CW	CLOCKWISE	OWN	OWNER
D	DEDICATED	P	POLE
DIA	DIAMETER	PA	PUBLIC ADDRESS
DISC	DISCONNECT	PB	PULL BOX
DIST	DISTRIBUTION	PC	PLUMBING CONTRACTOR
DPDT	DOUBLE POLE DOUBLE THROW	PF	POWER FACTOR
DPST	DOUBLE POLE SINGLE THROW	PH	PHASE
DR	DUPLEX RECEPTACLE	PIR	PASSIVE INFRARED
DWG	DRAWING(S)	PLC	PROGRAMMABLE LOGIC CONTROLLER
EC	ELECTRICAL CONTRACTOR	PNL	PANEL
ELC	ELEVATOR CONTRACTOR	PR	PRIMARY
ELEC	ELECTRICELECTRICAL	PT	POTENTIAL TRANSFORMER
EM	EMERGENCY	PV	PHOTOVOLTAIC
EMT	ELECTRICAL METALLIC TUBING	PVC	POLYVINYL CHLORIDE
EQUIP	EQUIPMENT	PWC	PRE-WIRED CONTROLS
EWC	ELECTRIC WATER COOLER	PWR	POWER
F	FUSED	RCPT	RECEPTACLE
FA	FIRE ALARM	REQD	REQUIRED
FAA	FIRE ALARM ANNUNCIATOR	RF	RADIO FREQUENCY
FACP	FIRE ALARM CONTROL PANEL	RM	ROOM
FC	FOOTCANDLE	RMC	RIGID METAL CONDUIT
FILA	FULL LOAD AMPERES	RNC	RIGID NON-METALLIC CONDUIT (SCH 40)
FMC	FLEXIBLE METAL CONDUIT	RVAT	REDUCED VOLTAGE - AUTOTRANSFORMER
FO	FIBER OPTIC	SC	SHORT CIRCUIT
FPC	FIRE PROTECTION CONTRACTOR	SCC	SHORT CIRCUIT CURRENT RATING
FS	FUSED SWITCH	SDP	SUBDISTRIBUTION PANEL
FSC	FOOD SERVICE CONTRACTOR	SEC	SECONDARY
FSD	FIRE/SMOKE DAMPER	SHLD	SHIELDED (AS IN CABLE)
FT	FOOT/FEET	SHT	SHEET
FVNR	FULL VOLTAGE, NON-REVERSING	SPD	SURGE-PROTECTIVE DEVICE
FVR	FULL VOLTAGE, REVERSING	SPDT	SINGLE POLE DOUBLE THROW
G/GND	GROUND/GROUNDING	SPST	SINGLE POLE SINGLE THROW
GC	GENERAL CONTRACTOR	SR	SINGLE RECEPTACLE
GEN	GENERATOR	SS	SURGE SUPPRESSOR (ISOLATED GROUND TYPE)
GF	GROUND FAULT	ST	SHUNT TRIP
GFI/GFCI	GROUND FAULT INTERRUPTER	SW	SWITCH
H	HORIZONTALLY MOUNTED	SWBD	SWITCHBOARD
HG	HOSPITAL GRADE	SWGR	SWITCHGEAR
HH	HANDHOLE	TBD	TO BE DETERMINED
HID	HIGH INTENSITY DISCHARGE	TC	TIMECLOCK
HOA	HAND-OFF-AUTO	TCC	TEMPERATURE CONTROLS CONTRACTOR
HP	HORSEPOWER	TEMP	TEMPERATURE
HPS	HIGH PRESSURE SODIUM	TR	TAMPER RESISTANT
HZ	FREQUENCY	TT	THERMAL TRIP SWITCH
I/O	INPUT/OUTPUT	TTB	TELEPHONE TERMINAL BOARD
ID	INSIDE DIAMETER	TYP	TYPICAL
IDF	INTERMEDIATE DISTRIBUTION FRAME	U	UTILITY
IG	ISOLATED GROUND	UG	UNDERGROUND
IMC	INTERMEDIATE METAL CONDUIT	UL	UNDERWRITERS LABORATORY
ISC	SHORT CIRCUIT CURRENT	UON	UNLESS OTHERWISE NOTED
JB	JUNCTION BOX	UPS	UNINTERRUPTABLE POWER SUPPLY
K	KELVIN (COLOR TEMPERATURE)	USB	STANDARD DUPLEX WITH 2 USB PORTS
KCML	1000 CIRCULAR MILS	V	VOLTS
KV	KILOVOLTS	VA	VOLT-AMPERES
KVA	KILVOLT-AMPERES	VAC	VOLTS ALTERNATING CURRENT
KW	KILOWATTS	VDC	VOLTS DIRECT CURRENT
KWH	KILOWATT-HOUR	VFD	VARIABLE FREQUENCY DRIVE
LAN	LOCAL AREA NETWORK	VND	VENDOR
LC	LIGHTING CONTACTOR	W	WATTS
LCP	LIGHTING CONTROL PANEL	W	WIRE
LED	LIGHT EMITTING DIODE	WHM	WATTHOUR METER
LF	LINEAR FOOT	WP	WEATHERPROOF
LFMC	LIQUID-TIGHT FLEXIBLE METAL CONDUIT	XFMR	TRANSFORMER
LM	LUMEN	XP	EXPLOSION PROOF
LTG	LIGHTING		
LV	LOW VOLTAGE		
MAX	MAXIMUM		
MC	MECHANICAL CONTRACTOR		
MCA	MINIMUM CIRCUIT AMPERES		
MCB	MAIN CIRCUIT BREAKER		



Farnsworth GROUP

2211 W. BRADLEY AVENUE
CHAMPAIGN, ILLINOIS 61821
(217) 352-7408 / info@f-w.com

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ISSUE # DATE: DESCRIPTION:

PERMIT/BID SET

PROJECT:
THE CITY OF MARSHALL

MARSHALL PUBLIC LIBRARY PHASE II RENOVATIONS

612 ARCHER AVE. MARSHALL, IL 62441

DATE:	11/09/2023
DESIGNED:	BG
DRAWN:	KMA
REVIEWED:	WRK

SHEET TITLE:
GENERAL INFORMATION

SHEET NUMBER:
E0.2

PROJECT NO.: 0230585.00



Farnsworth GROUP

2211 W. BRADLEY AVENUE
CHAMPAIGN, ILLINOIS 61821
(217) 352-7408 / info@f-w.com

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SPECIFICATIONS

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PROJECT NO.: 0230585.00

OCCUPANCY/VACANCY SENSORS

- A. LIGHTING SYSTEM CONTROLS ARE DIAGRAMMATIC AND ARE GENERIC. SUCCESSFUL LIGHTING CONTROL SYSTEM VENDOR SHALL THOROUGHLY EXAMINE PLANS AND SHALL PROVIDE CONTRACTOR WITH DETAILED LAYOUT DRAWINGS AND BILL OF MATERIALS TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM WITHOUT REQUESTS FOR ADDITIONAL MONETARY COMPENSATION FOR "MISSING" COMPONENTS.
- B. CEILING MOUNTED SYSTEMS
- SYSTEMS SHALL BE LOW VOLTAGE WITH ALL COMPONENTS INTERCONNECTED VIA CAT 5 CABLE WITH RJ45 CONNECTORS.
 - CEILING SENSORS SHALL BE MULTI-TECHNOLOGY TYPE, 24 VDC, 20 mA, WITH 2 RJ45 PORTS, INDOOR USE, FCC PART 15 COMPLIANT AND UL LISTED WITH 5 YEAR WARRANTY
 - DIMMING DAY LIGHT SENSORS SHALL BE 0-10 VOLT DIMMING TYPE, 24 VDC, 30 mA, WITH 1 RJ45 PORT, INDOOR USE, FULL DIMMING RANGE (2 VDC TO 10 VDC), SET POINTS 20-60 FTC, FCC PART 15 COMPLIANT AND UL LISTED WITH 5 YEAR WARRANTY
 - DIMMING SWITCHES SHALL BE 1 BUTTON, COMPATIBLE WITH ROOM CONTROLLER AND DAYLIGHT SENSOR.
 - OVERRIDE SWITCHES SHALL BE TWO BUTTON (ON/OFF), COMPATIBLE WITH OCCUPANCY SENSOR
 - ROOM CONTROLLER SHALL BE MULTIVOLT INPUT/OUTPUT (120/230/277 VAC 50/60HZ) WITH THREE RJ45 PORTS, INDOOR USE, FCC PART 15 COMPLIANT AND UL LISTED WITH 5 YEAR WARRANTY
 - PROVIDE ONE HAND HELD REMOTE CONTROL SETUP CONTROLLER FOR USE DURING COMMISSIONING AND TURN OVER TO OWNER.
 - BUILDING LAYOUTS SHALL BE CONFIRMED BY VENDOR ULTIMATELY BY CONTRACTOR CHOSEN FOR PROJECT.
 - COMMISSIONING AND INITIAL STARTUP WILL BE PROVIDED BY FACTORY TRAINED REPRESENTATIVE.
- C. SWITCH HEIGHT WALL BOX OCCUPANCY SENSORS SHALL BE MULTI-TECHNOLOGY TYPE, SINGLE RELAY WITH MANUAL OVERRIDE BUTTON.
- D. APPROVED MANUFACTURERS:
- WATTSTOPPER
 - ACUITY CONTROLS
 - HUBBELL CONTROLS
 - EATON CONTROLS

AREA OF REFUGE BASE STATION(S), CALL BOXES AND SIGNAGE

- A. THE AREA OF REFUGE BASE STATION MUST BE CAPABLE OF HANDLING A MINIMUM OF 5 CALL BOXES. VISUAL INDICATORS ON THE BASE STATION ALLOW RESCUE PERSONNEL TO KNOW WHICH AREA OF RESCUE CALL BOX NEEDS ASSISTANCE. THE BASE STATION MUST ALLOW RESCUE PERSONNEL TO SPEAK TO ALL CALL BOXES OR INDIVIDUAL CALL BOXES.
1. THE EMERGENCY COMMUNICATION HARDWARE SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (ADA) THE CALL BOX SHALL HAVE THE ABILITY TO BE PROGRAMMED WITH UP TO 5 EMERGENCY PHONE NUMBERS. UPON ACTIVATION OF THE EMERGENCY PUSH BUTTON, A CALL WILL BE AUTOMATICALLY PLACED TO THE BASE STATION. AT THE SAME TIME THE SYSTEM SHALL CALL A SECONDARY LOCATION OUTSIDE THE BUILDING AND SHALL ACTIVATE TWO WAY OFF-SITE PERSON TO PERSON VOICE COMMUNICATIONS.
- B. CONSTRUCTION.
- THE AREA OF REFUGE BASE STATION (RATH MODEL 2500 OR FUNCTIONAL EQUIVALENT) MUST HAVE A STAINLESS STEEL OR POWDER COATED STEEL HOUSING, RED COIL CORD EMERGENCY HANDSET, BE 24VDC OR 120VAC POWERED AND INCLUDE A RECHARGEABLE BATTERY TO MAINTAIN BACKUP POWER FOR A MINIMUM OF 4 HOURS OF TALK TIME.
 - THE AREA OF REFUGE CALL BOXES (RATH MODELS 2100 OR FUNCTIONAL EQUIVALENT) MUST BE IN FULL COMPLIANCE WITH AMERICANS WITH DISABILITIES ACT (ADA). CALL BOXES REQUIRE A HANDS-FREE SPEAKERPHONE WITH AN LED TO INDICATE STATUS OF CALL.
 - THE AREA OF REFUGE CALL BOXES MUST ALLOW THE PROGRAMMING IN OF A SPECIFIC LOCATION MESSAGE OF THE CALL BOX. THIS ALLOWS RESCUE PERSONNEL TO KNOW THE LOCATION OF THE ACTIVATED CALL BOX.
 - THE AREA OF REFUGE CALL BOXES IS TO BE LOCATED NO HIGHER THAN 48" ABOVE GROUND LEVEL TO ENSURE CONFORMANCE WITH THE ADA REQUIREMENTS.
 - THE AREA OF REFUGE CALL BOXES MUST HAVE A BRAILLE FACEPLATE LOCATED NO HIGHER THAN 48" FOR FRONT REACH AND 54" FOR SIDE REACH ABOVE GROUND LEVEL TO ENSURE CONFORMANCE WITH THE ADA REQUIREMENTS.
 - THE AREA OF REFUGE BASE STATION MUST PROVIDE AN AUDIBLE AND VISUAL INDICATOR THAT A CALL BOX HAS BEEN ACTIVATED.
 - THE AREA OF REFUGE 24VDC POWER SUPPLY (RATH MODEL 2500-PWR24 OR FUNCTIONAL EQUIVALENT) MUST BE CAPABLE OF SUPPLYING POWER TO A MINIMUM OF 10 CALL BOXES AND THE BASE STATION.
 - MOUNTING
 - THE AREA OF REFUGE BASE STATION IS TO BE SURFACE MOUNTED ON WALL.
 - AREAS OF REFUGE CALL BOXES ARE TO BE SURFACE MOUNTED ON WALL.
 - ELECTRICAL
 - CALL BOXES AND BASE STATION ARE TO BE POWERED BY 24VDC POWER SUPPLY (RATH MODEL 2500-PWR24 OR FUNCTIONAL EQUIVALENT). BASE STATION TO HAVE OPTION OF 120VAC POWER.
 - WIRING FROM THE BASE STATION TO THE CALL BOXES SHALL BE RATH SMARTWIRE CUSTOM CABLE (OR FUNCTIONAL EQUIVALENT).
 - CALL BOXES MUST HAVE BUILT-IN BATTERY BACKUP AND INCLUDE A RECHARGEABLE BATTERY TO MAINTAIN BACKUP POWER FOR A MINIMUM OF 4 HOURS OF TALK TIME.
 - BASE STATION MUST HAVE A BUILT-IN BATTERY BACKUP AND INCLUDE A RECHARGEABLE BATTERY TO MAINTAIN BACKUP POWER FOR A MINIMUM OF 4 HOURS OF TALK TIME.
 - SYSTEM SHALL BE IN COMPLIANCE WITH ALL STATE AND LOCAL ELECTRICAL CODES.
 - COMMUNICATIONS
 - THE CALL BOXES SHALL HAVE AN ADA COMPLIANT AND VANDAL RESISTANT SPEAKERPHONE.
 - THE CALL BOXES SHALL BE HANDS-FREE AND BE A PUSH-BUTTON-ONCE TO TALK SYSTEM. ONCE THE BUTTON HAS BEEN PUSHED, THE CALL BOX WILL CALL THE BASE STATION. IF NO ANSWER AT THE BASE STATION, IT WILL AUTOMATICALLY CALL PREPROGRAMMED EMERGENCY NUMBERS. THE CALL BOX MUST BE CAPABLE OF BEING PROGRAMMED WITH UP TO 5 EMERGENCY NUMBERS.
 - CALL BOX SHALL HAVE LOCATION MESSAGE CAPABILITY. CALL BOX MUST HAVE A MINIMUM 18 SECOND RECORDABLE MESSAGE CAPABILITY, PROGRAMMABLE TO PLAY 1 OR 2 TIMES. CALL BOX SHALL NOTIFY CALLED PARTY OF THE LOCATION OF THE CALL UPON BEING RECEIVED AT THE EMERGENCY DISPATCH CENTER.
 - CALL BOX SHALL BE CAPABLE OF ALLOWING THE CALLED PARTY TO REPLAY THE LOCATION MESSAGE IF NECESSARY TO ENSURE AN UNDERSTANDING OF THE CALLER LOCATION.
 - IF SYSTEM IS NOT ATTENDED TO 24 HOURS A DAY, THE CALL BOX MUST DIAL A SECONDARY LOCATION OUTSIDE THE BUILDING TO ACTIVATE TWO WAY OFF-SITE PERSON TO PERSON VOICE COMMUNICATIONS.
 - ONCE CALL HAS BEEN MADE (BUTTON PUSHED), THE CALL CAN ONLY BE TERMINATED BY THE CALLED PARTY.
 - CALL BOX MUST HAVE A RED LED THAT WILL LIGHT UP UPON PUSH OF THE BUTTON. THE LIGHT SHALL BE A SOLID COLOR WHEN THE CALL BOX IS ACTIVATED, AND WILL FLASH WHEN CALL HAS BEEN ANSWERED.
 - THE CALL BOX MUST BE CAPABLE OF BEING PROGRAMMED AND REPROGRAMMED ON-SITE AND REMOTELY.
 - STANDARD CALL BOX FEATURES:
 - FIVE NUMBER PROGRAMMING.
 - OPERATING TEMPERATURE OF BETWEEN -40° F TO +150° F (-40° TO + 65° C)
 - PROGRAMMABLE PASSWORDS.
 - ON-SITE OR REMOTE PROGRAMMABLE.
 - EEPROM MEMORY TO PROTECT PROGRAMMING.
- C. SIGNAGE
- SYSTEM SHALL CONSIST OF A MINIMUM OF ONE PHOTO LUMINESCENT (RATH PART #7041 OR FUNCTIONAL EQUIVALENT) SIGN OR ONE 120VAC EDGE LIGHT SIGN (RATH PART #7050 OR FUNCTIONAL EQUIVALENT), "LOCATION" AND "INSTRUCTION" SIGN (RATH PART #7049 OR FUNCTIONAL EQUIVALENT) STATING, "AREA OF REFUGE" TO CLEARLY INDICATE LOCATION OF DESIGNATED AREA. A TACTILE SIGN (RATH PART #7043 OR #7044 OR FUNCTIONAL EQUIVALENT) WITH RAISED LETTER AND BRAILLE SHALL BE LOCATED AT ENTRANCE TO AREA OF REFUGE.

AREA OF REFUGE BASE STATION(S), CALL BOXES AND SIGNAGE (Continued)

- D. GRAPHICS
- AREA OF REFUGE BASE STATION MUST INCLUDE WORDING IDENTIFYING THE LOCATION OF EACH CALL BOX AND LIGHT AN LED WHEN A PARTICULAR CALL BOX HAS BEEN ACTIVATED.
 - CALL BOX WORDING MUST INCLUDE "HELP PHONE", "INTERNATIONAL PHONE SYMBOL" AND RAISED BRAILLE LETTERING.
- E. WARRANTY
- THE BASE STATION AND CALL BOXES SHALL BE WARRANTED FOR A PERIOD OF THREE YEARS.
- F. MANUFACTURER
- BASIS OF DESIGN IS:
 - RATH AREA OF REFUGE
 - N56 W24720 NORTH CORPORATE CIRCLE
 - SUSSEX, WI 53089
 - 800-451-1460
 - WEBSITE: WWW.AREA-OF-REFUGE.COM

LIGHTING CONTROLS

- A. MANUAL SWITCHES AND PLATES
- PUSH-BUTTON SWITCHES: MODULAR, MOMENTARY CONTACT, THREE WIRE, FOR OPERATING ONE OR MORE RELAYS AND TO OVERRIDE AUTOMATIC CONTROLS.
 - MATCH COLOR AND STYLE SPECIFIED IN "WIRING DEVICES"
 - INTEGRAL LED PILOT LIGHT TO INDICATE WHEN CIRCUIT IS ON.
 - INTERNAL WHITE LED LOCATOR LIGHT TO ILLUMINATE WHEN CIRCUIT IS OFF.
 - WALL PLATES: SINGLE AND MULTI-GANG PLATES AS SPECIFIED IN "WIRING DEVICES"
- B. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:
- ACUITY BRANDS, INC., LIGHTING CONTROL & DESIGN, INC
 - GENERAL ELECTRIC COMPANY, GE CONSUMER & INDUSTRIAL - ELECTRICAL DISTRIBUTION
 - LIGHTOLIER CONTROLS, A PHILIPS GROUP BRAND
 - SIEMENS ENERGY & AUTOMATION, INC.
 - EATON CONTROLS
 - WATTSTOPPER, A LEGRAND GROUP BRAND

GROUNDING AND BONDING

- A. ELECTRICAL INSTALLATION SHALL BE A COMPLETELY GROUNDED SYSTEM. ALL ELECTRICAL EQUIPMENT, SUPPORTS, CABINETS, ENCLOSURES, ETC. SHALL BE GROUNDED IN ACCORDANCE WITH THE NEC, AS SPECIFIED HEREIN AND AS SHOWN ON THE DRAWINGS.
- B. ALL ELECTRICAL EQUIPMENT SHALL BE GROUNDED USING A GREEN INSULATED, COPPER, EQUIPMENT GROUNDING CONDUCTOR. CONDUIT SHALL NOT BE USED AS AN EQUIPMENT GROUNDING CONDUCTOR. EQUIPMENT GROUNDING CONDUCTOR SHALL BE SIZED AS SHOWN ON THE DRAWINGS AND IN ACCORDANCE WITH THE NEC AS A MINIMUM.
- C. ELECTRICAL SERVICE SHALL BE GROUNDED AS SPECIFIED HEREIN, AS SHOWN ON THE DRAWINGS, AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY COMPANY AND NEC.
- D. THE GROUNDED CONDUCTOR OF THE ELECTRICAL SYSTEM SHALL BE GROUNDED AT THE SERVICE DISCONNECT. PROVIDE GROUNDING ELECTRODE CONDUCTOR IN 3/4" CONDUIT FROM SERVICE DISCONNECT TO TEN FEET (10'-0") LONG, 5/8" DIAMETER, COPPER/CLAD GROUND ROD. EXOTHERMIC WELD CONDUCTOR TO GROUND ROD. ADDITIONAL GROUND RODS SHALL BE PROVIDED AT 18 FOOT SPACINGS AS NEEDED TO COMPLY WITH THE MAXIMUM RESISTANCE ALLOWED (SEE TESTING). GROUNDING ELECTRODE CONDUCTOR SHALL BE SIZED AS SHOWN ON THE DRAWINGS AND IN ACCORDANCE WITH THE NEC AS A MINIMUM.

TRANSFORMER

- A. SHALL BE DRY-TYPE, U.L. LISTED.
- B. TRANSFORMER SHALL HAVE COPPER WINDING.
- C. TRANSFORMER RATED 150 KVA AND ABOVE SHALL HAVE CLASS 155 INSULATION.
- D. ACCEPTABLE MANUFACTURERS:
- SQUARE D CLASS 7400
 - GENERAL ELECTRIC 'APPROVED EQUAL'
 - EATON 'APPROVED EQUAL'
 - SIEMENS 'APPROVED EQUAL'

PANELBOARDS

- A. COMPLETE ASSEMBLY INCLUDING ENCLOSURE, CIRCUIT BREAKERS, NEUTRAL BUS AND EQUIPMENT GROUND BUS.
- B. DEAD FRONT CONSTRUCTION AND ENCLOSED IN A STEEL CABINET AS SPECIFIED IN U.L. 50 AND NEC SECTION 384-18.
- C. CIRCUIT BREAKERS SHALL BE THE BOLT-ON TYPE. WHEN USED AS SERVICE EQUIPMENT, PANELBOARD ASSEMBLY SHALL BE U.L. LISTED AND LABELED 'SUITABLE FOR SERVICE EQUIPMENT'.
- D. NEUTRAL BUS SHALL HAVE PROVISIONS FOR THE MAIN NEUTRAL CONDUCTOR AND HAVE BRANCH LUGS OF SUFFICIENT SIZE AND QUANTITY FOR THE NUMBER OF CIRCUITS IN THE PANELBOARD. NEUTRAL BUS SHALL BE ISOLATED TYPE EXCEPT WHEN PANELBOARD IS USED AS SERVICE EQUIPMENT. NEUTRAL BUS SHALL BE BONDED TO THE ENCLOSURE AND TO THE GROUNDING ELECTRODE CONDUCTOR.
- E. GROUND BUS SHALL HAVE PROVISIONS FOR THE MAIN GROUND CONDUCTOR AND HAVE BRANCH LUGS OF SUFFICIENT SIZE AND QUANTITY FOR THE NUMBER OF CIRCUITS IN THE PANELBOARD. GROUND BUS SHALL BE BONDED TO THE ENCLOSURE.
- F. WHERE WIRE SIZE SHOWN ON DRAWINGS IS TOO LARGE FOR CIRCUIT BREAKER LUG, PROVIDE WATERTIGHT COMPRESSION TYPE CONNECTION WITHIN PANELBOARD AND PROVIDE PIGTAIL TO CIRCUIT BREAKER. PIGTAIL SHALL BE LARGEST WIRE SIZE ACCEPTED BY CIRCUIT BREAKER LUG.
- G. ENCLOSURE SHALL BE PROPER NEMA TYPE AS REQUIRED BY LOCAL OR AS NOTED ON DRAWINGS AND SHALL BE UL LISTED.
- H. PANELBOARD SHALL HAVE FULLY RATED COPPER BUS.
- I. ACCEPTABLE MANUFACTURERS:
- SQUARE D CLASS 1630 TYPE NODD
 - GENERAL ELECTRIC 'APPROVED EQUAL'
 - EATON 'APPROVED EQUAL'
 - SIEMENS 'APPROVED EQUAL'

FUSES

- A. SHALL BE U.L. LISTED FOR ITS SPECIFIC APPLICATION.
- B. ACCEPTABLE MANUFACTURERS:
- BUSSMANN
 - LITTELFUSE

SAFETY SWITCHES

- A. SWITCHES SHALL BE PROPER NEMA ENCLOSURE AS REQUIRED BY LOCATION OR NOTED ON THE DRAWINGS.
- B. SWITCHES SHALL BE HORSEPOWER RATED, HEAVY DUTY, QUICK-MAKE AND QUICK-BREAK TYPE.
- C. ACCEPTABLE MANUFACTURERS:
- SQUARE D CLASS 3110 'HEAVY DUTY'
 - GENERAL ELECTRIC 'APPROVED EQUAL'
 - EATON 'APPROVED EQUAL'
 - SIEMENS 'APPROVED EQUAL'

LIGHTING

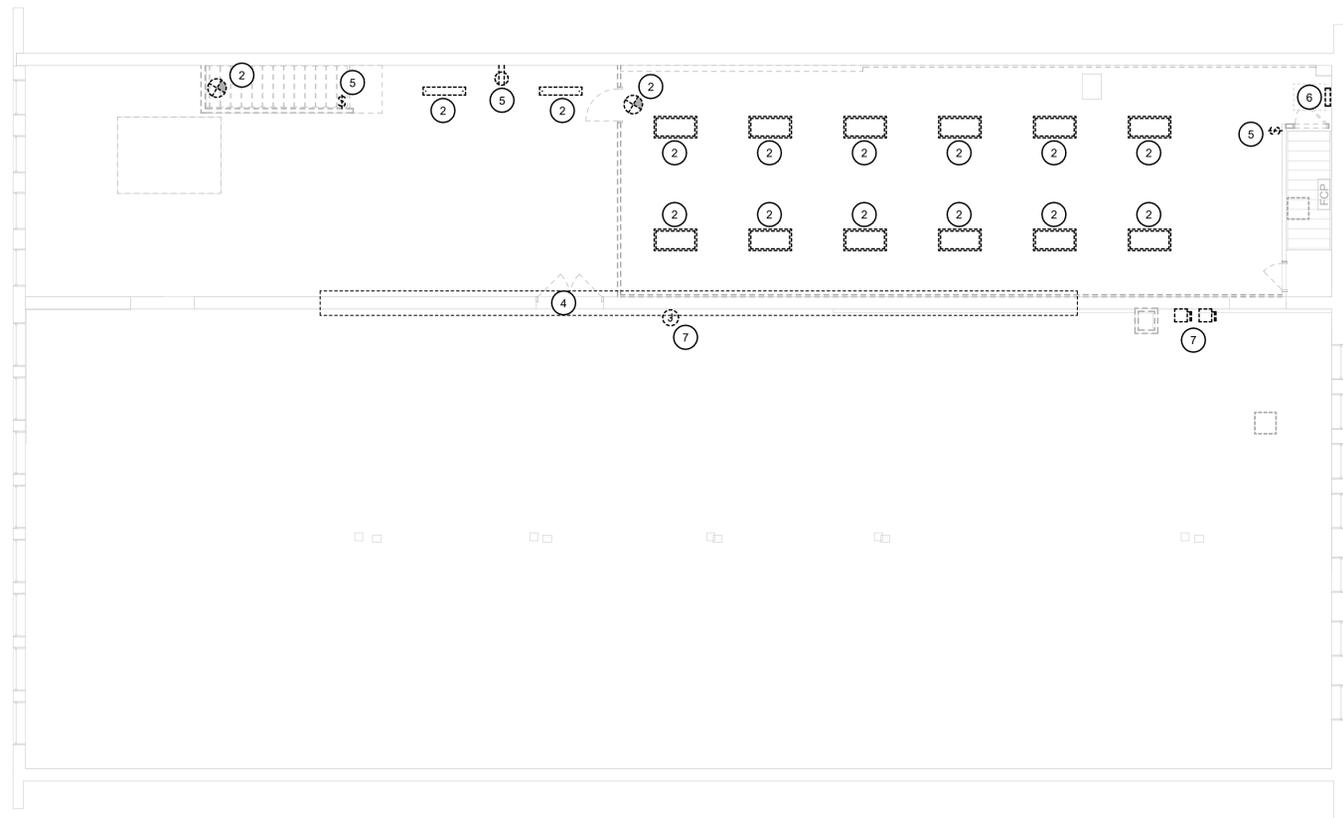
- A. LUMINAIRES SHALL BE:
- FURNISHED WITH PROPER OUTLET BOXES, HANGERS, HARDWARE, SUPPORTS, CANOPY EXTENSIONS, PLUGS.
 - FURNISHED WITH 6'-0" OF FLEXIBLE CONDUIT PREWIRED (DROP IN ONLY). BE U.L. LISTED IN ACCORDANCE WITH THE NEC.
- B. SEE LUMINAIRE SCHEDULE ON DRAWINGS FOR DESCRIPTION.

EXISTING FIRE ALARM SYSTEM

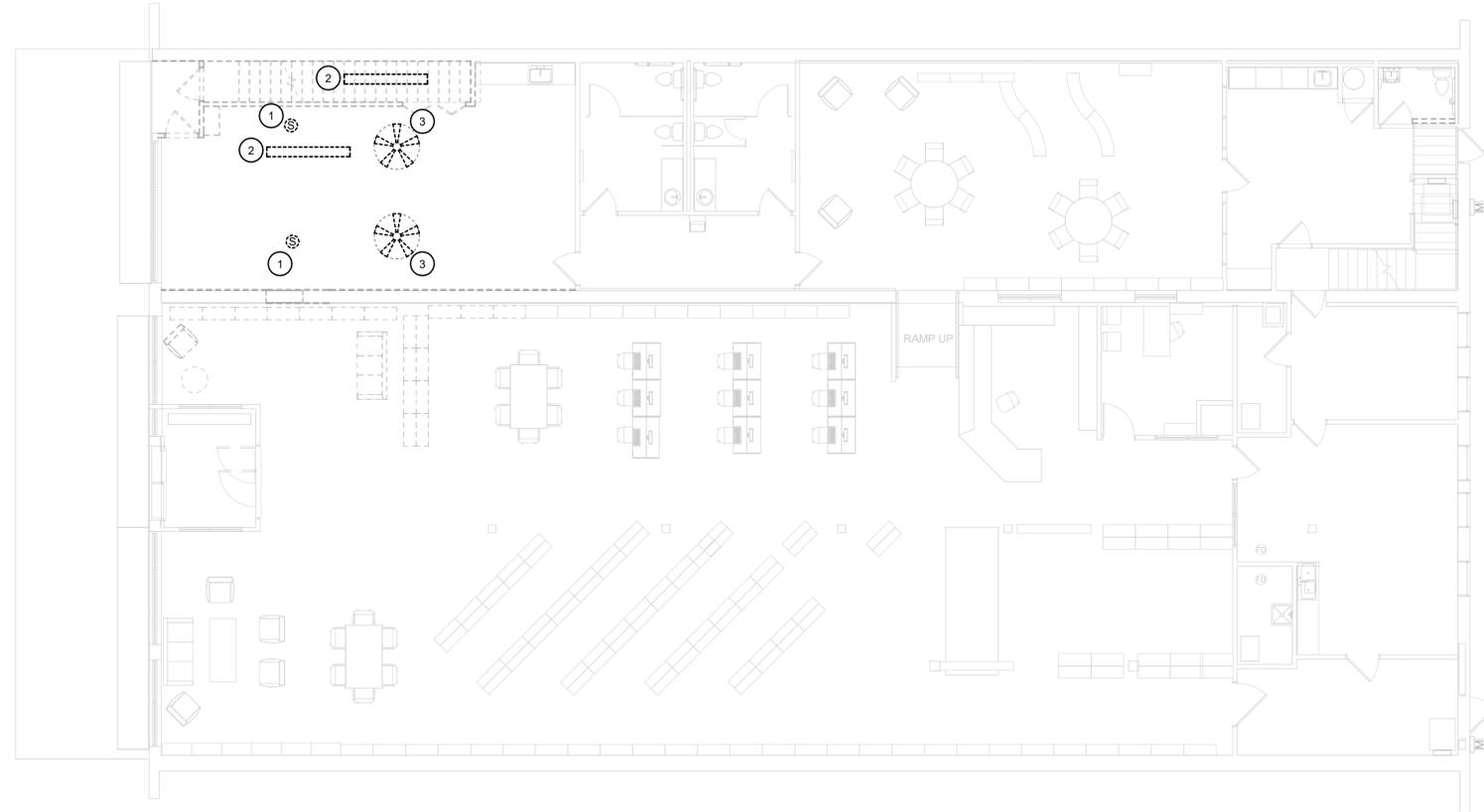
- A. EXISTING FIRE ALARM SYSTEM IS HONEYWELL. VERIFY EXISTING CONFIGURATION.
- B. ALL DEVICES AND EQUIPMENT ADDED TO THE EXISTING FIRE ALARM SYSTEM SHALL BE 100% COMPATIBLE WITH THE EXISTING SYSTEM. ALL NEW DEVICES AND EQUIPMENT SHALL BE U.L. LISTED AND SHALL CONFORM TO NFPA 72.
- C. ALL NEW WIRING SHALL BE 100% COMPATIBLE WITH EXISTING FIRE ALARM SYSTEM AND SHALL BE AS DIRECTED BY THE MANUFACTURER OF THE EXISTING FIRE ALARM SYSTEM.
- D. PROVIDE HARDWARE AND PROGRAMMING MODIFICATIONS REQUIRED TO THE EXISTING ALARM CONTROL PANEL AND ASSOCIATED ACCESSORIES TO EXPAND THE EXISTING SYSTEM AS INDICATED ON THE DRAWINGS. ALL MODIFICATIONS SHALL BE COMPLETE BY MANUFACTURER'S AUTHORIZED TECHNICIAN.
- E. ALL WIRING SHALL BE VERIFIED WITH FIRE ALARM EQUIPMENT SUPPLIER AS TO QUANTITY, SIZE, ROUTING, CONDUIT, JUNCTION BOX REQUIREMENTS, ETC.
- F. NEW VISUAL ALARM DEVICES SHALL BE 100% COMPATIBLE WITH THE EXISTING FIRE ALARM CONTROL PANEL; SHALL COMPLY WITH ADA REQUIREMENTS; SHALL BE LISTED AND LABELED PER U.L. STANDARD 1971; 15CD TYPE STROBE, UNLESS OTHERWISE NOTED. SURFACE MOUNT DEVICES AT 80" ABOVE FINISHED FLOOR OR AT 6" BELOW CEILING WHICHEVER IS LOWER. PROVIDE ASSOCIATED BACKBOX.
- G. NEW AUDIBLE/VISUAL ALARM DEVICES SHALL BE 100% COMPATIBLE WITH THE EXISTING FIRE ALARM CONTROL PANEL; SHALL COMPLY WITH ADA REQUIREMENTS; SHALL BE LISTED AND LABELED PER U.L. STANDARD 1971; AND UL 464 15CD TYPE STROBE, UNLESS NOTED OTHERWISE. SURFACE MOUNT DEVICES AT 80" ABOVE FINISHED FLOOR OR AT 6" BELOW CEILING, WHICHEVER IS LOWER. PROVIDE ASSOCIATED BACKBOX.
- H. NEW BOOSTER POWER SUPPLY (BPS) SHALL BE 100% COMPATIBLE WITH THE EXISTING FIRE ALARM CONTROL PANEL. PROVIDE BPS UNIT(S) IF EXISTING CONTROL PANEL DOES NOT HAVE CAPACITY FOR ADDITIONAL ALARM INDICATING DEVICES. BPS SHALL BE A SINGLE UNIT OR MULTIPLE UNITS AS REQUIRED TO MEET THE SPECIFIED REQUIREMENTS. BPS UNIT SHALL BE HOUSED IN AN ENCLOSURE WITH LOCKABLE DOOR. BPS SHALL BE EQUIPPED TO ALLOW ACTIVATION FROM AN EXISTING NOTIFICATION APPLIANCE CIRCUIT. BPS UNIT SHALL PROVIDE 6 TO 10 AMPS OF NOTIFICATION APPLIANCE POWER DISTRIBUTED BETWEEN FOUR TO SIX APPLIANCE CIRCUITS. BPS UNIT SHALL OPERATE FROM A 120 VAC INPUT AND BE EQUIPPED WITH BATTERY BACK UP WITH ASSOCIATED BATTERY CHARGER. BPS SHALL BE SUPERVISED FOR GROUND FAULT, OVERCURRENT, OPEN CIRCUITS AND LOW BATTERY CONDITIONS. OCCURRENCE OF ANY OF THE CONDITIONS SHALL CREATE TROUBLE SIGNAL ON THE FIRE ALARM CONTROL PANEL. BPS SHALL BE U.L. LISTED AND LABELED AS FIRE ALARM ACCESSORY FOR USE WITH U.L. LISTED FIRE ALARM CONTROL.
- I. FIRE ALARM SYSTEM MODIFICATIONS AND EXPANSION SHALL BE INSTALLED AND FULLY TESTED UNDER THE SUPERVISION OF A MANUFACTURER'S SPECIFICATIONS AND THE APPROPRIATE NFPA REQUIREMENTS. REPORTS OF ALL TESTING DURING INSTALLATION SHALL BE SUBMITTED TO THE OWNER AND ENGINEER UPON REQUEST.
- J. BEFORE REQUESTING FINAL APPROVAL OF THE INSTALLATION, THE INSTALLING CONTRACTOR SHALL FURNISH A WRITTEN STATEMENT TO THE EFFECT THAT THE SYSTEM HAS BEEN INSTALLED AND TESTED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND THE APPROPRIATE NFPA REQUIREMENTS.
- K. PROVIDE DEMONSTRATION OF THE MODIFIED FIRE ALARM SYSTEM TO THE OWNER. PERFORM ALL THE FUNCTIONS SPECIFIED.
- L. SUBMIT A CERTIFICATE OF COMPLETION PER NFPA 72.

FIRE ALARM

- A. THE ENTIRE FIRE ALARM INSTALLATION SHALL BE A CLASS B SYSTEM, AND ALL EQUIPMENT SHALL BE U.L. LISTED AND SHALL CONFORM TO NFPA 72, 90A, AND 101 AS WELL AS APPLICABLE BUILDING CODES.
- B. ALL WIRING SHALL BE VERIFIED WITH FIRE ALARM EQUIPMENT SUPPLIER AS TO QUANTITY, SIZE, ROUTING, CONDUIT, JUNCTION BOX REQUIREMENTS, ETC.
- C. THE CONTRACTOR SHALL BE RESPONSIBLE TO SUBMIT TO THE LOCAL FIRE SAFETY DEPARTMENT AND FIRE MARSHALL A COMPLETE SET OF INSTALLATION SHOP DRAWINGS TO SECURE APPROVAL AND TO ARRANGE PERTINENT FIELD OBSERVATIONS DURING CONSTRUCTION AS REQUIRED.
- D. THE ANNUNCIATOR SHALL BE CAPABLE OF INDICATING SAME DISPLAY FORMAT THAT THE MAIN FIRE ALARM CONTROL PANEL IS CAPABLE OF ACTIVATING.
- E. COMPONENTS SHALL BE COMPATIBLE WITH THE AND OPERATE AS AN COMPLETE SYSTEM WITH THE FIRE ALARM CONTROL PANEL.
- F. FIRE ALARM LAYOUT AND DESIGN SHALL BE COMPLETED BY A NICET LEVEL 4 TECHNICIAN, INSTALLATION SHALL BE BY COMPLETED BY A NICET LEVEL 3 TECHNICIAN.



2 SECOND FLOOR ELECTRICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



1 FIRST FLOOR ELECTRICAL DEMOLITION PLAN
SCALE: 1/8" = 1'-0"



GENERAL NOTES

A. NOT USED

KEYNOTES #

- 1 EXISTING CEILING SPEAKER TO BE RELOCATED, SEE DRAWING E3.1 FOR FINAL LOCATION.
- 2 EXISTING FIXTURE TO BE REMOVED.
- 3 EXISTING CEILING FANS TO BE RELOCATED, SEE DRAWING E1.1 FOR FINAL LOCATION.
- 4 MULTIPLE EXPOSED CONDUITS AND CABLING AT FLOOR LEVEL, RELOCATE AS REQUIRED FOR FINISHED CORRIDOR INSTALLATION.
- 5 EXISTING WIRING DEVICE TO BE REMOVED.
- 6 EXISTING POWER PANEL AND ASSOCIATED FEEDERS TO BE REMOVED BACK TO SOURCE AND DISCONNECTED. EXTEND EXISTING MEETING ROOM CIRCUITS TO PANEL LP1A, ON FIRST FLOOR - DIRECTLY BELOW THIS LOCATION. AIR CONDITIONING CIRCUITS SHALL BE RELOCATED TO NEW PANEL LPB1, SEE E2.1 - SECOND FLOOR PLAN FOR PANEL LOCATION. SECOND FLOOR LIGHTING AND RECEPTACLES (NOT ALL IDENTIFIED) WILL BE REPLACED AS PART OF THIS PROJECT.
- 7 REMOVE EQUIPMENT AND ASSOCIATED CONDUITS FOR ABANDONED SYSTEMS.



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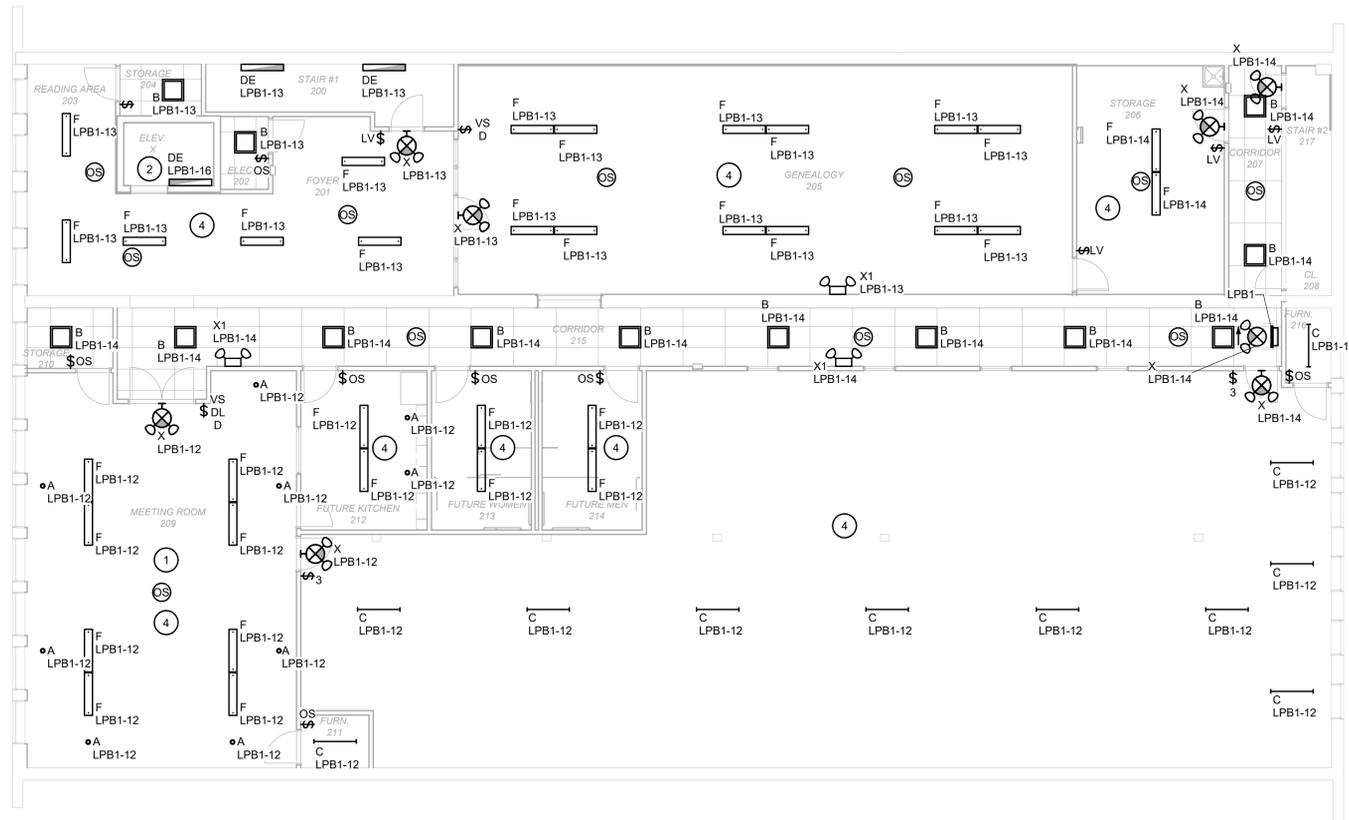
DATE: 11/09/2023
DESIGNED: BG
DRAWN: KMA
REVIEWED: WRK

SHEET TITLE:
ELECTRICAL DEMOLITION PLAN

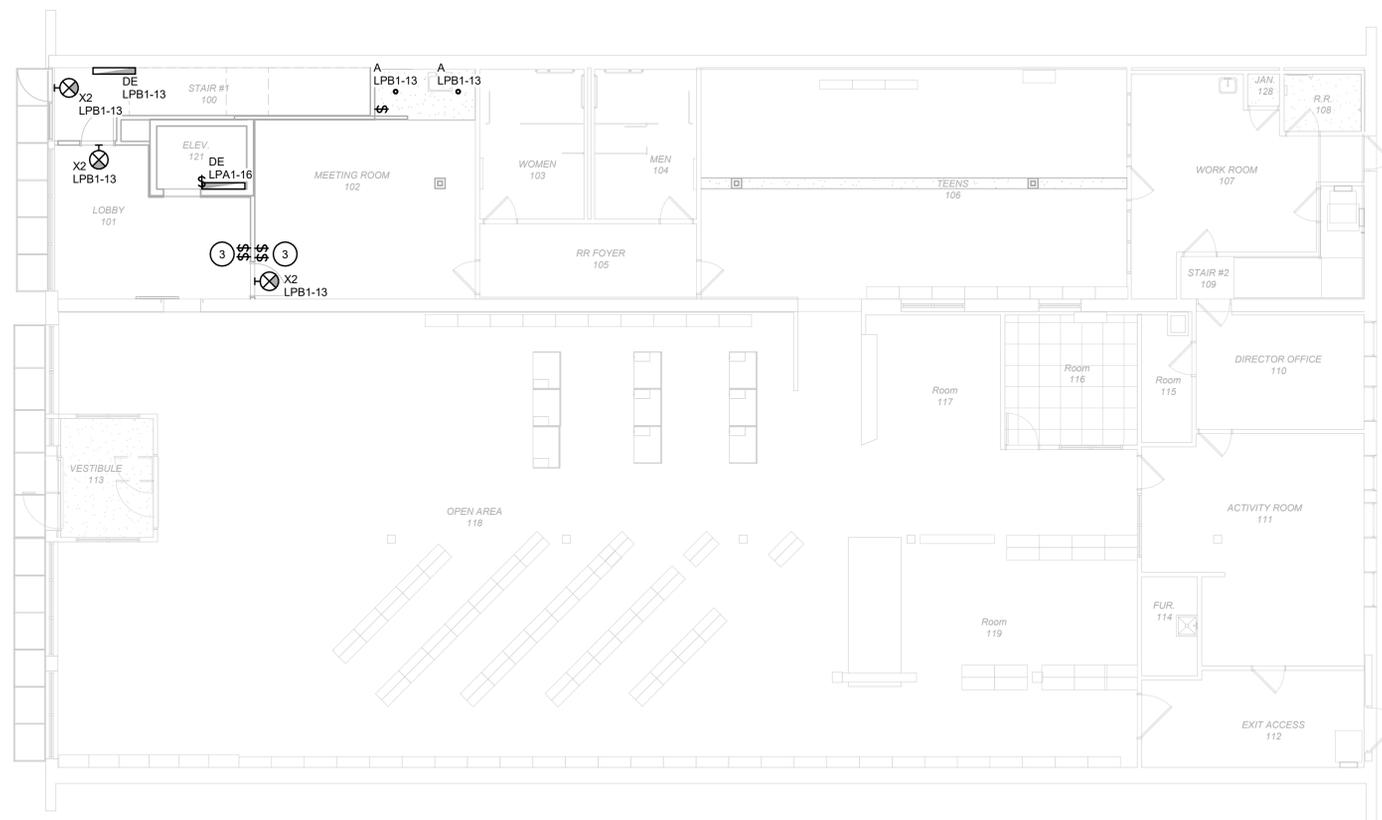
SHEET NUMBER:

ED1.1

PROJECT NO.: 0230585.00



2 SECOND FLOOR LIGHTING PLAN
SCALE: 1/8" = 1'-0"



1 FIRST FLOOR LIGHTING PLAN
SCALE: 1/8" = 1'-0"



GENERAL NOTES

- A. NOT USED
- KEYNOTES #**
- 1 LIGHTING CONTROL SHALL FEATURE (5) SCENARIOS FOR THIS ROOM:
 -CAN LIGHTS ALONG PERIMETER - ON,
 -CAN LIGHTS ON PERIMETER - DIMMABLE,
 -PRIMARY ROOM LIGHTING - ON,
 -PRIMARY LIGHTING - DIMMABLE,
 -ALL LIGHTING ON/OFF.
 - 2 SEE ELEVATOR CONNECTION DETAIL 3 ON SHEET E6.1.
 - 3 INSTALL (2) 3-WAY SWITCHES FOR THIS ROOM FOR EXISTING LUMINAIRE(S) AND RELOCATED CEILING FAN CONTROL.
 - 4 ALL LIGHTING IN OPEN CEILING AREAS IS MOUNTED WITH BOTTOM OF FIXTURE APPROX. 12'-0" AFF.



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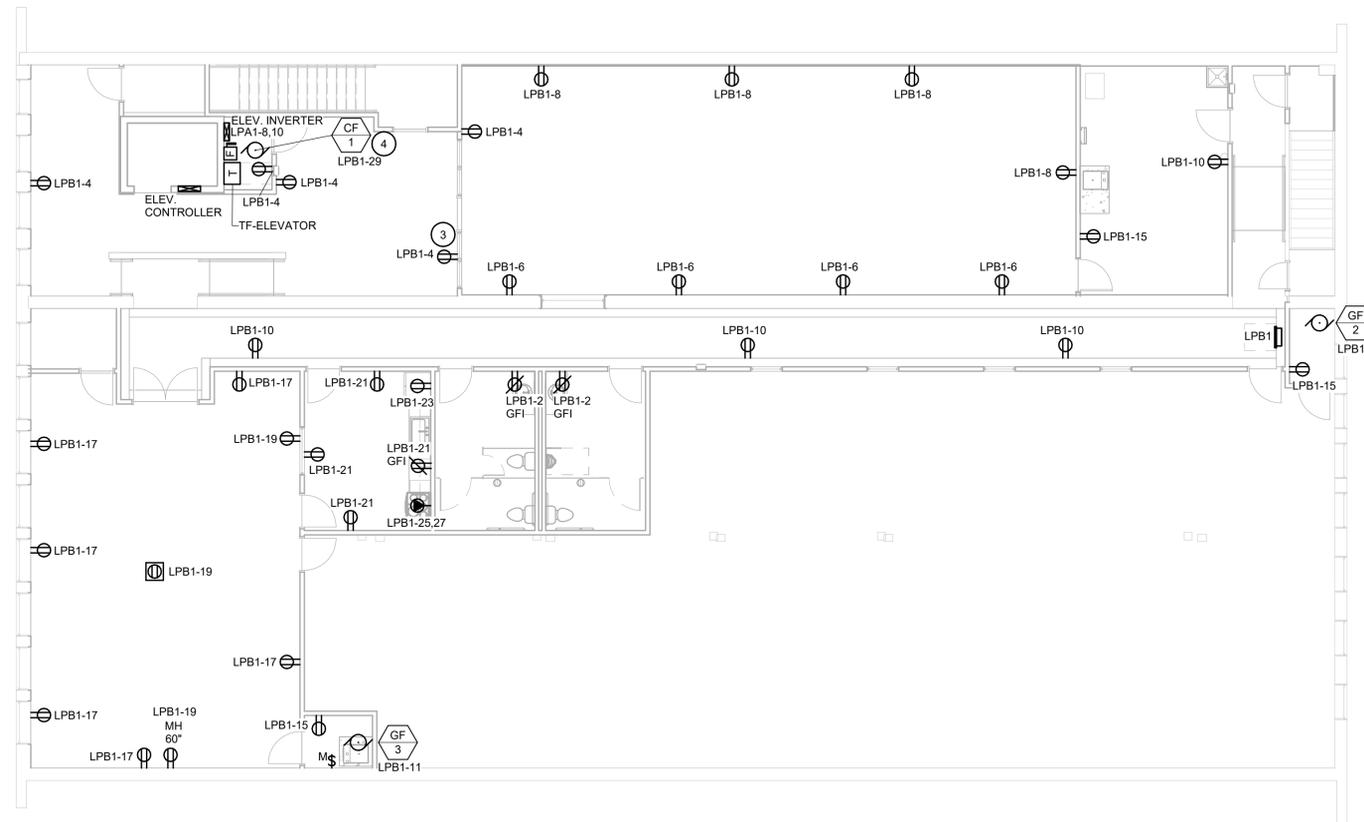
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FIRST FLOOR LIGHTING PLAN

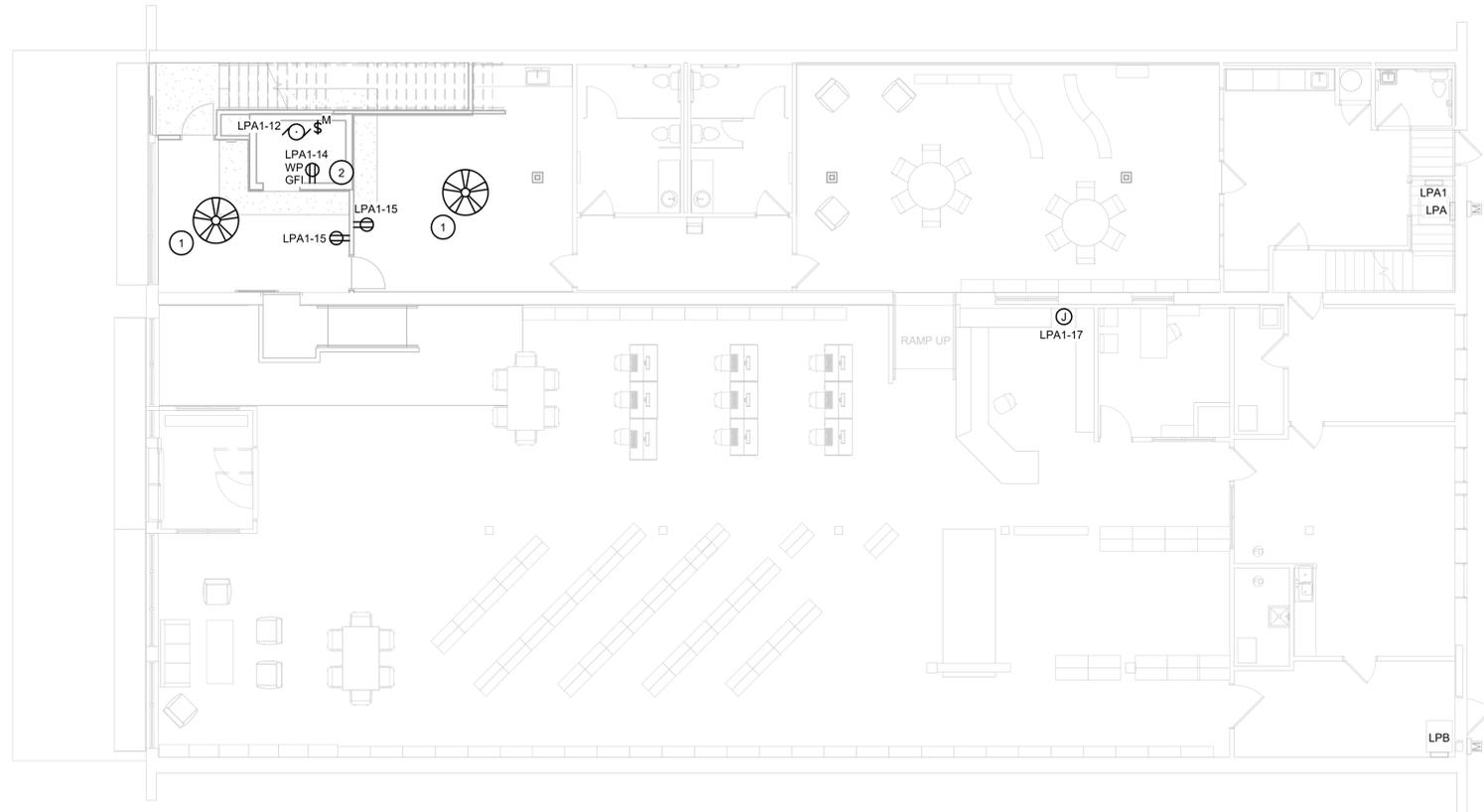
SHEET NUMBER:

E1.1

PROJECT NO.: 0230585.00



2 SECOND FLOOR POWER PLAN
SCALE: 1/8" = 1'-0"

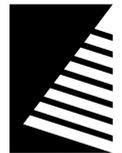


1 FIRST FLOOR POWER PLAN
SCALE: 1/8" = 1'-0"



GENERAL NOTES

- A. NOT USED
- KEYNOTES #**
- 1 RELOCATED EXISTING CEILING FAN.
 - 2 SEE ELEVATOR CONNECTION DETAIL 3 ON SHEET E6.1.
 - 3 RECEPTACLE LOCATED 18" AFF ON WALL BELOW WINDOW FRAME.
 - 4 WIRE 120V POWER THROUGH MC FURNISHED THERMOSTAT TO MC FURNISHED CEILING FAN.



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SHEET TITLE:
FIRST FLOOR POWER PLAN

SHEET NUMBER:

E2.1

PROJECT NO.: 0230585.00



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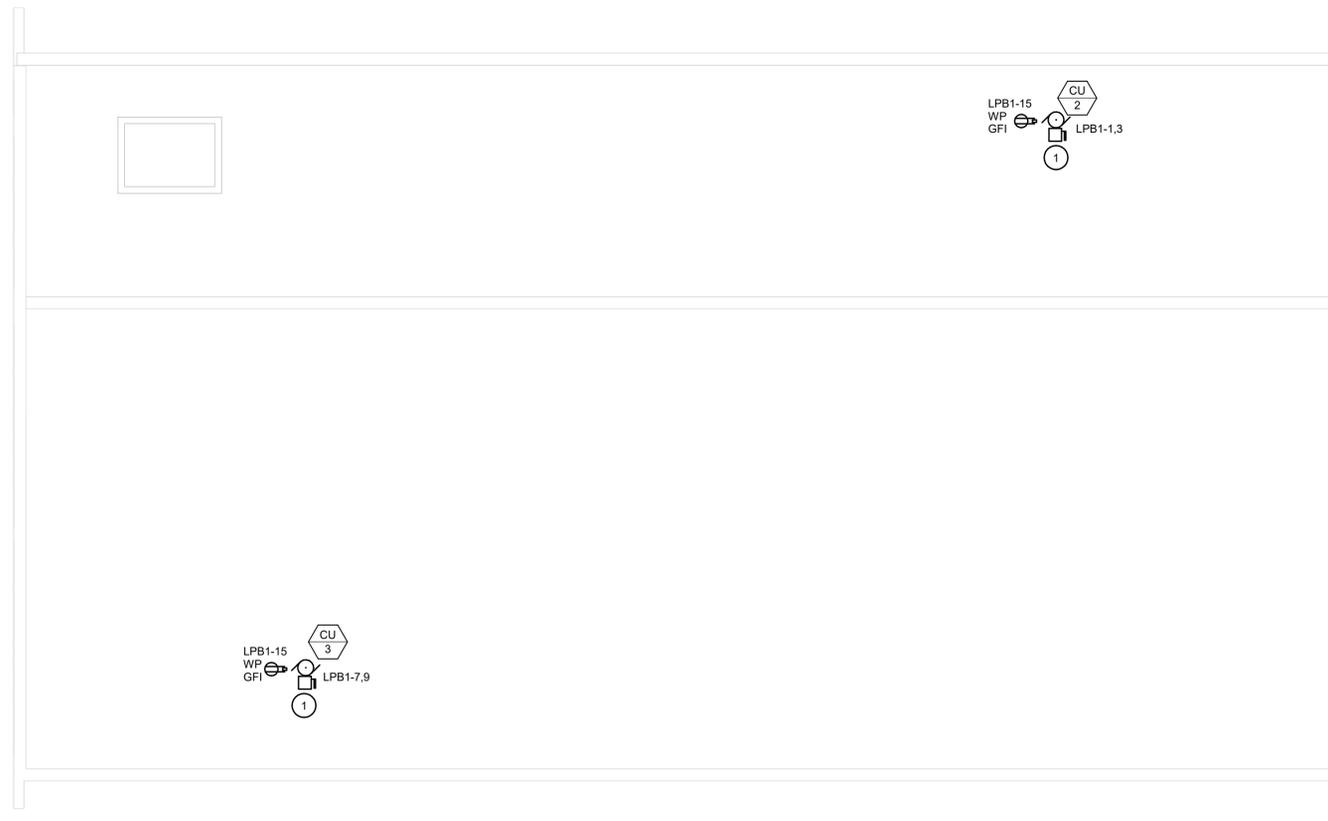
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GENERAL NOTES

A. NOT USED

KEYNOTES

1 COORDINATE ROOF PENETRATIONS WITH OWNER'S ROOFING CONTRACTOR PRIOR TO ANY ROOF PENETRATION WORK TO AVOID WARRANTY ISSUES.



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ELECTRICAL ROOF PLAN

SHEET NUMBER:

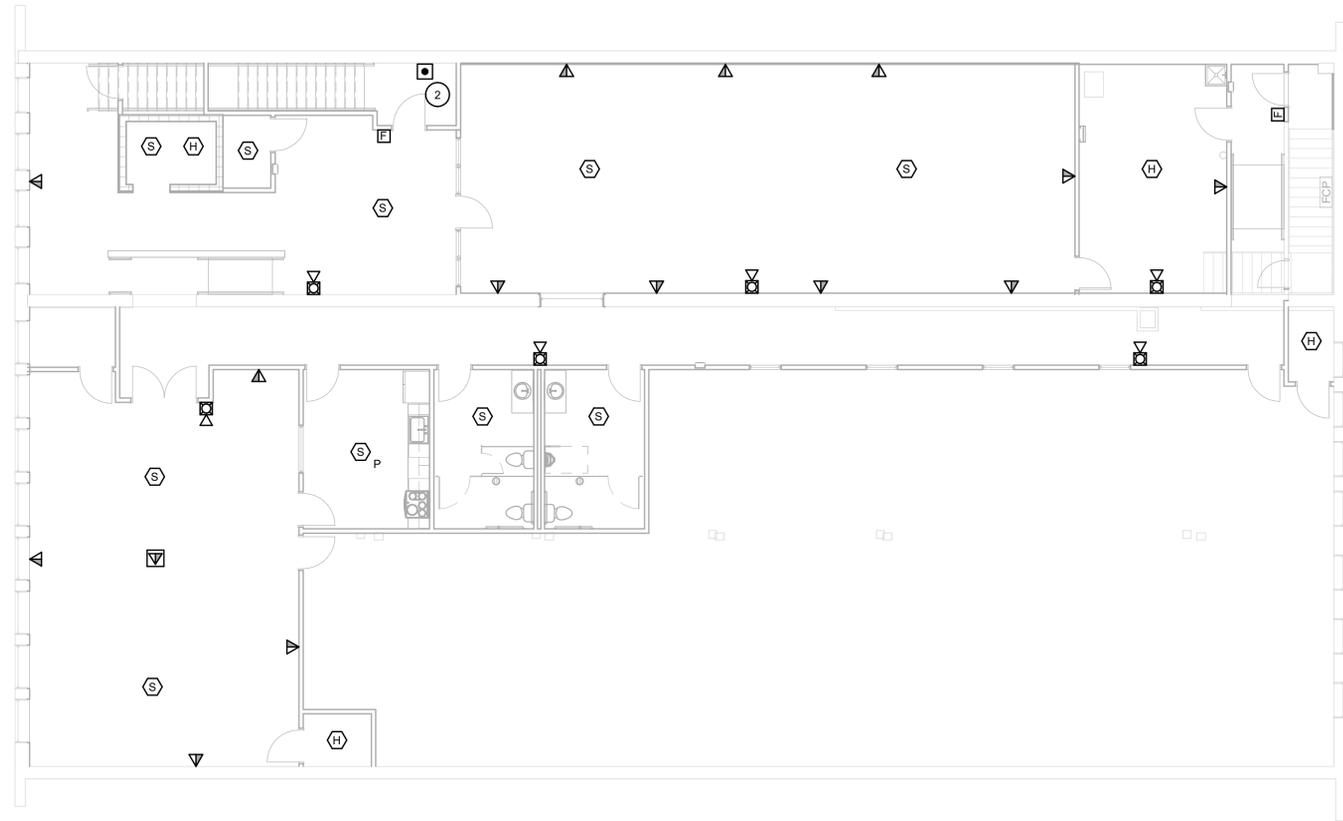
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PROJECT NO.: 0230585.00

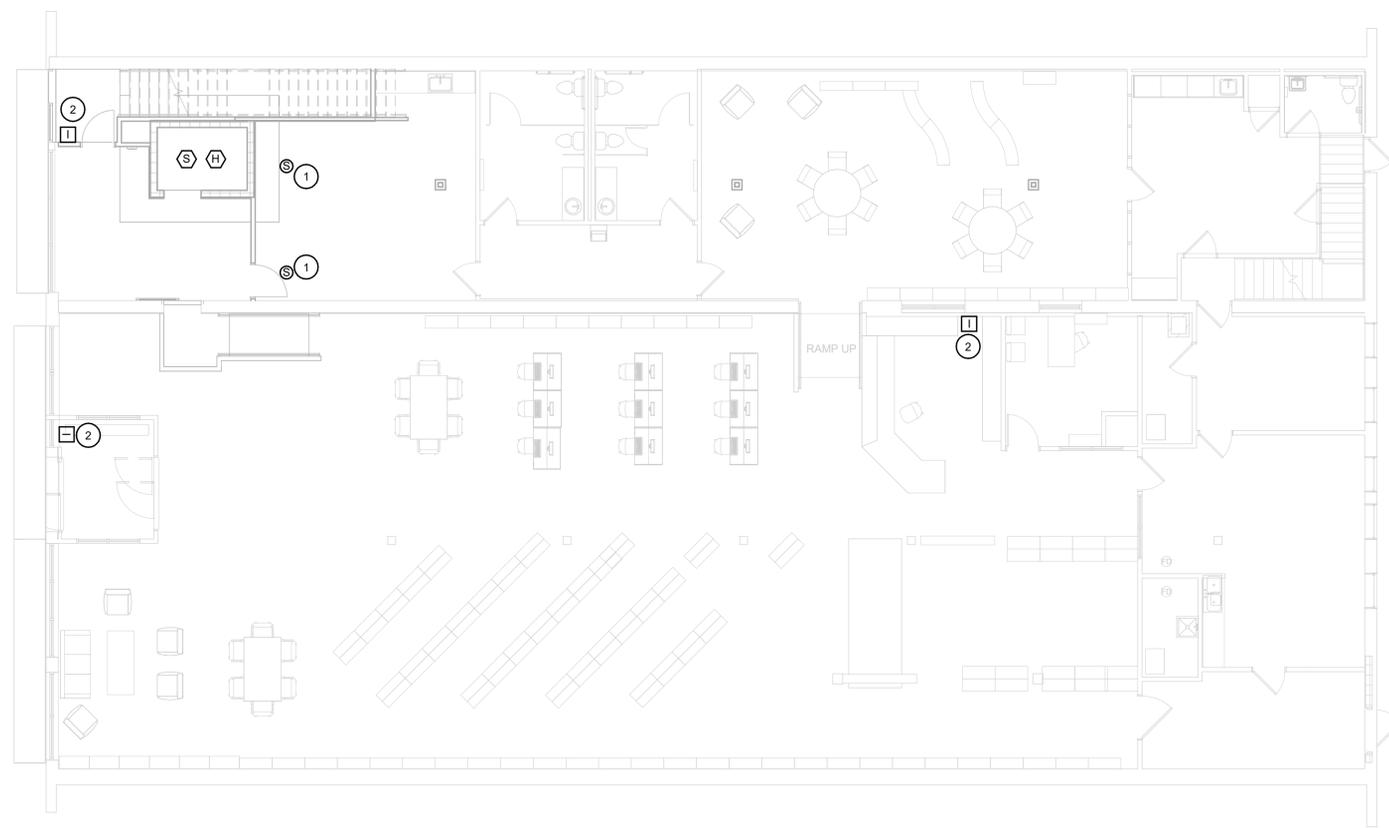
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1 ROOF POWER PLAN
SCALE: 1/8" = 1'-0"





2 SECOND FLOOR SYSTEMS PLAN
SCALE: 1/8" = 1'-0"



1 FIRST FLOOR SYSTEMS PLAN
SCALE: 1/8" = 1'-0"



GENERAL NOTES

A. NOT USED

KEYNOTES #

- 1 RELOCATED CEILING SPEAKER.
- 2 AREA OF REFUGE COMPONENTS, SEE SPECIFICATIONS.



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SHEET TITLE:
FIRST FLOOR SYSTEMS PLAN

SHEET NUMBER:

E3.1

PROJECT NO.: 0230585.00

LUMINAIRE SCHEDULE										
TYPE	MANUFACTURER	LUMINAIRE SERIES	SOURCE (TYPE/COLOR TEMP/ICRI)	VOLTAGE	LOAD (VA)	LUMEN OUTPUT	FINISH	MOUNTING	DESCRIPTION	
			LED	277 V				SURFACE		
A	ELITE	RL670-100LDIMTRM/VOLT30K90WWH	LED	120 V	14			SURFACE	JUNCTION BOX MOUNTED CAN TYPE TRIM FIXTURE	
B	LITHONIA	2GTL 2 33L A 19 EZ1 LP835	LED	120 V	30			RECESSED	2X2 LED TROFFER	
C	LITHONIA	Z1LD L48 3000LM FST MVOLT 35K 80CRI	LED	120 V	30			CHAIN	4' LED STRIP LIGHT	
DE	LITHONIA	WL4 30L LP840 EL14L	LED	120 V	28			WALL	4' WALL MOUNTED LUMINAIRE WITH 1400 LUMEN EMERGENCY BATTERY.	
F	LITHONIA	FML4W 48 ALO6 SEF 840 MVOLT	LED	120 V	49			PENDANT	(2) 4' LED FIXTURES	
X	LITHONIA	LHQM LED R	LED	120 V	-			UNIVERSAL	UNIVERSAL MOUNT EXIT AND EMERGENCY LIGHT COMBO UNIT	
X1	LITHONIA	LHQM LED R	LED	120 V	-			WALL	WALL MOUNT EMERGENCY LIGHT	
X2	LITHONIA	LHQM LED R	LED	120 V	-			UNIVERSAL	UNIVERSAL MOUNT EXIT SIGN	

NOTES:

A. REMOVE ALL FINGER PRINTS FROM LENSES, REFLECTORS, AND LOUVERS FOLLOWING LUMINAIRE INSTALLATION.

B. FOR CONTINUOUS LUMINAIRES COORDINATE WITH SUPPLIER ON LENGTH AND REQUIRED FITTINGS, AND INSTALL WITH UNIFORM ILLUMINATION ALONG LUMINAIRE INCLUDING CORNERS.

C. FOR APPROVAL OF LUMINAIRES FROM MANUFACTURERS OTHER THAN THOSE LISTED, PROPOSED LUMINAIRES SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER TEN BUSINESS DAYS PRIOR TO BID FOR REVIEW. FINAL DETERMINATION OF 'EQUAL' STATUS FOR BIDDING SHALL BE THE SOLE DETERMINATION OF THE ARCHITECT/ENGINEER.

D. PROVIDE ALL HOLLOW POLES WITH VIBRATION DAMPERS BY THE FACTORY.

EQUIPMENT DATA SCHEDULE																			
MARK	EQUIPMENT	DESCRIPTION		LOAD DATA				STARTER				DISCONNECT AT EQUIP.				WIRE & CONDUIT	REMARKS		
		FURNISHED BY	INSTALLED BY	LOAD	VOLTAGE	PHASE	TYPE	NEMA SIZE	DISC. TYPE	DISC. SIZE	FURNISHED BY	INSTALLED BY	CONTROL WIRING	DISC. TYPE	DISC. SIZE			FURNISHED BY	INSTALLED BY
CU 2	CONDENSER UNIT	MC	MC	28A	240	1	-	-	-	-	-	-	TCC	3R	60A	EC	EC	3#6, 1#8G, 1" C	
CU 3	CONDENSER UNIT	MC	MC	28A	240	1	-	-	-	-	-	-	TCC	3R	60A	EC	EC	3#6, 1#8G, 1" C	
GF 2	GAS FURNACE				120	1							TCC						
GF 3	GAS FURNACE				120	1							TCC						
STR	STOVE RECPT	-	EC	50A	240	1	-	-	-	-	-	-	-	-	EC	EC		3#6, 1#8G, 1" C	

EQUIPMENT DATA NOTES:

GENERAL NOTES:

A.

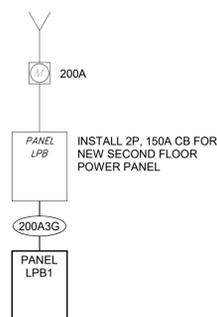
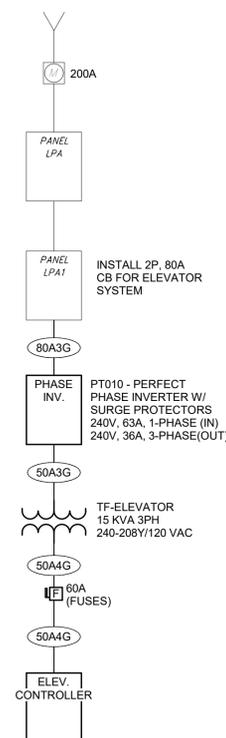
REMARKS:

1. INSTALL DISCONNECT SWITCH ON THE SIDE OF THE EQUIPMENT HOUSING.

2. PROVIDE DISCONNECT LOCKABLE IN ACCORDANCE WITH NEC 110.25.

3. FUSE PER MANUFACTURER'S RECOMMENDATIONS.

4. INTERIOR UNIT ELECTRICALLY FED FROM EXTERIOR UNIT BY MANUFACTURER PROVIDED CABLE. COORDINATE RACEWAY REQUIREMENTS WITH EQUIPMENT MANUFACTURER.



1 ONE-LINE DIAGRAM
SCALE: NOT TO SCALE

FEEDER SCHEDULE

MARK	CONDUIT & CONDUCTORS (SEE NOTE 1)	REMARKS
50A3G	3#6, 1#10G, 1" C	
50A4G	4#6, 1#10G, 1" C	
80A3G	3#3, 1#8G, 1-1/4" C	
200A3G	3#3/0, 1#6G, 2" C	

REMARKS:

1. THIS FEEDER SCHEDULE IS BASED ON 60 DEGREE CENTIGRADE (TYPE TW) WIRE AND TERMINATIONS FOR SIZES #12 TO #1, AND 75 DEGREE CENTIGRADE (TYPE THHN/THWN) WIRE AND TERMINATIONS FOR SIZES #10 AND LARGER. UNLESS NOTED OTHERWISE, CONDUIT IS SIZED BASED ON TYPE EMT CONDUIT. USE OF OTHER CONDUIT TYPES REQUIRES RESIZING OF CONDUIT.



Farnsworth GROUP

2211 W. BRADLEY AVENUE
CHAMPAIGN, ILLINOIS 61821
(217) 352-7408 / info@f-w.com

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DATE: DESCRIPTION:

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PROJECT:
THE CITY OF MARSHALL

MARSHALL PUBLIC LIBRARY PHASE II RENOVATIONS

612 ARCHER AVE. MARSHALL, IL 62441

DATE: 11/09/2023

DESIGNED: BG

DRAWN: KMA

REVIEWED: WRK

SHEET TITLE:

ONE-LINE DIAGRAM/ SCHEDULES

SHEET NUMBER:

E4.1

PROJECT NO.: 0230585.00

EXISTING PANELBOARD LPB												
VOLTAGE:		240/120V		CONNECTED LOAD PER PHASE				ISOLATED GROUND BUS (Y/N):				N
PHASE/WIRE:		1Ø / 3W		PHASE				BUSSING:				SEE SPEC
RATED AMPERAGE:		225 A		A B				MOUNTING:				SURFACE
MAIN:		200 A MCB		0 VA 0 VA				MCB GROUND FAULT PROTECTION (Y/N):				N
SCC RATING (SYM):		-		0 A 0 A				MCB SHUNT TRIP (Y/N):				N
								MCB 100% RATED (Y/N):				N
CKT	IDENTIFICATION	TYPE (*)	BKR SIZE	POLES	A	B	POLES	BKR SIZE	TYPE (*)	IDENTIFICATION	CKT	
1	RECEPTACLE		20 A	1	0	0	1	20 A		FURNACE EAST	2	
3	STORAGE LIGHTS		20 A	1		0	0	1	20 A	FURNACE WEST	4	
5	RECEPTACLE		20 A	1	0	0		1	20 A	CONTROL FRONT LIGHTS	6	
7	BACK DOOR LIGHT & EXIT		20 A	1		0	0	1	20 A	RCPT COL FRONT WINDOW	8	
9	VESTIBULE HEATER		15 A	2		0	0	1	20 A	GFI	10	
11	STRIP EAST LIGHT		20 A	1	0	0		1	20 A	COMP RECEPTACLE	12	
13	MID WEST SIDE LIGHT		20 A	1		0	0	1	20 A	STRIP WEST SIDE	14	
15	TELEPHONE BOARD LIGHT		20 A	1	0	0		1	20 A	WEST SIDE LIGHTS	16	
17	COUNTER GFI		20 A	1		0	0	2	20 A	AC EAST	18	
21	ROOF AC WEST		20 A	2		0	0	2	20 A	FRONT LIGHTS WEST	20	
23	VESTIBULE LIGHT		25 A	1	0	0		2	20 A	FRONT LIGHTS EAST	22	
25	UNDER COUNTER RECEPTACLE		20 A	1		0	0	1	20 A	PANEL RECEPTACLE	24	
27	COUNTER GFI		20 A	1		0	0	2	20 A	ACTIVITY ROOM HEATERS	26	
29	COUNTER GFI		20 A	1		0	0	2	20 A	OFFICE HEATER	28	
31	WATER LINE HEATER		20 A	2		0	0	2	20 A	SO. COMP. COLUMN	30	
33	RCPT - CREATIVE STUDY RM		20 A	1		0	0	1	20 A	NO. COMP. COLUMN	32	
35	CIRCULATION DESK		20 A	1		0	0	1	20 A		34	
37	SPACE		--	1	--	0	--	1	20 A		36	
41											38	
											40	
											42	

EXISTING PANELBOARD LPA												
VOLTAGE:		240/120V		CONNECTED LOAD PER PHASE				ISOLATED GROUND BUS (Y/N):				N
PHASE/WIRE:		1Ø / 3W		PHASE				BUSSING:				SEE SPEC
RATED AMPERAGE:		225 A		A B				MOUNTING:				SURFACE
MAIN:		200 A MCB		948 VA 1880 VA				MCB GROUND FAULT PROTECTION (Y/N):				N
SCC RATING (SYM):		-		8 A 16 A				MCB SHUNT TRIP (Y/N):				N
								MCB 100% RATED (Y/N):				N
CKT	IDENTIFICATION	TYPE (*)	BKR SIZE	POLES	A	B	POLES	BKR SIZE	TYPE (*)	IDENTIFICATION	CKT	
1	AIR CONDITIONER		60 A	2	0	0		1	20 A	TOILETS, EWC, EMER LTG	2	
3	CONTROL MTG/HALL LTG		20 A	1	0	0		1	20 A	BACK DOOR PULL CORD	4	
5	CONTROL LIBRARY RM		20 A	1	0	0		1	20 A	BACK STAIR LTG	6	
7	LIGHTEMER, EXIT BACK DOOR		20 A	1	0	0		1	20 A	OLD OFFICE LTG	8	
9	FANS, EXIT SIGN, COMP. RECPT.		20 A	1	0	0		1	20 A	RECPT EAST WALL LIBRARY	10	
11	RCPT KIT, TOILET GFCl		20 A	1	0	0		1	20 A	FURNACE	12	
13	WATER HEATER		20 A	1	0	0		1	20 A	MTG RM RCPTS	14	
15	MEETING ROOM LIGHTS		20 A	2	0	948		2	20 A	REFRIG. RCPT	16	
17	LIBRARY ROOM LIGHTS		20 A	2	0	0		1	20 A	COMP. RCPT	18	
19	SPACE		--	1	--	0	--	1	20 A	PANEL LPA1	20	
21											22	
23											24	
25											26	
27											28	

PANELBOARD LPB1												
VOLTAGE:		240/120V		CONNECTED LOAD PER PHASE				ISOLATED GROUND BUS (Y/N):				N
PHASE/WIRE:		1Ø / 3W		PHASE				BUSSING:				SEE SPEC
RATED AMPERAGE:		225 A MLO		A B				MOUNTING:				SURFACE
MAIN:		10KAIC		14418 VA 13256 VA				MCB GROUND FAULT PROTECTION (Y/N):				N
SCC RATING (SYM):		-		120 A 110 A				MCB SHUNT TRIP (Y/N):				N
								MCB 100% RATED (Y/N):				N
CKT	IDENTIFICATION	TYPE (*)	BKR SIZE	POLES	A	B	POLES	BKR SIZE	TYPE (*)	IDENTIFICATION	CKT	
1	CONDENSER UNIT CU2		50 A	2	3360	360	1	20 A		TOILET RCPT	2	
3	FURNACE GF2		20 A	1	1692	720	1	20 A		ELEV LOBBY RCPT	4	
5	CONDENSER UNIT CU3		50 A	2	3360	720	1	20 A		GEN LAB RCPT	6	
7	FURNACE GF3		20 A	1	1540	842	1	20 A		STOR/CORR RCPT	8	
9	CEILING FAN CF1		20 A	1	900	64	1	20 A		2ND FLR LTG	10	
11	FURN RMS/RECPT AT CU2 & CU3		20 A	1	1080	0	1	20 A		2ND FLR LTG	12	
13	BOARD ROOM RCPT		20 A	1	720	0	1	20 A		SPARE	14	
15	BOARD ROOM TV RCPT		20 A	1		540	0	1	20 A	SPARE	16	
17	KITCHEN		20 A	1		0	1	20 A		SPARE	18	
19	REFRIGERATOR		20 A	1		180	0	1	20 A	SPARE	20	
21	STOVE		50 A	2		0	0	1	20 A	SPARE	22	
23	Motor		20 A	1	24	0	0	1	20 A	SPARE	24	
25	SPARE		20 A	1		0	0	1	20 A	SPARE	26	
27	SPARE		20 A	1		0	0	1	20 A	SPARE	28	
29	SPARE		20 A	1		0	0	1	20 A	SPARE	30	
31	SPARE		20 A	1		0	0	1	20 A	SPARE	32	
33	SPARE		20 A	1		0	0	1	20 A	SPARE	34	
35	SPARE		20 A	1		0	0	1	20 A	SPARE	36	
37	SPARE		20 A	1		0	0	1	20 A	SPARE	38	
39	SPARE		20 A	1		0	0	1	20 A	SPARE	40	
41	SPARE		20 A	1		0	0	1	20 A	SPARE	42	

EXISTING PANELBOARD LPA1												
VOLTAGE:		240/120V		CONNECTED LOAD PER PHASE				ISOLATED GROUND BUS (Y/N):				N
PHASE/WIRE:		1Ø / 3W		PHASE				BUSSING:				SEE SPEC
RATED AMPERAGE:		125 A		A B				MOUNTING:				SURFACE
MAIN:		125 A MLO		1880 VA 948 VA				MCB GROUND FAULT PROTECTION (Y/N):				N
SCC RATING (SYM):		-		16 A 8 A				MCB SHUNT TRIP (Y/N):				N
								MCB 100% RATED (Y/N):				N
CKT	IDENTIFICATION	TYPE (*)	BKR SIZE	POLES	A	B	POLES	BKR SIZE	TYPE (*)	IDENTIFICATION	CKT	
1	BASEBOARD HEATER		20 A	2	0	0		1	20 A	SPARE	2	
3	SPARE		20 A	1	0	0		1	20 A	SPARE	4	
5	SPARE		20 A	2	0	500		2	20 A	SPARE	6	
7	SPARE		20 A	2	0	500		2	20 A	ELEV. INVERTER	8	
9	MEETING RM PROJ/RCPT		20 A	1	0	180		1	20 A	ELEV. SUMP PUMP	10	
11	MEETING RM SCREEN/RCPT		20 A	1	0	360		1	20 A	ELEV. PIT RCPT	12	
13	NEW MTG RM. RCPTS		20 A	1	1200	0		1	20 A	ELEV. SHAFT LTG	14	
15	AREA OF REFUGE CONTROLLER		20 A	1		0		1	20 A	SPARE	16	
17	SPARE		20 A	1		0		1	20 A	SPARE	18	
19											20	

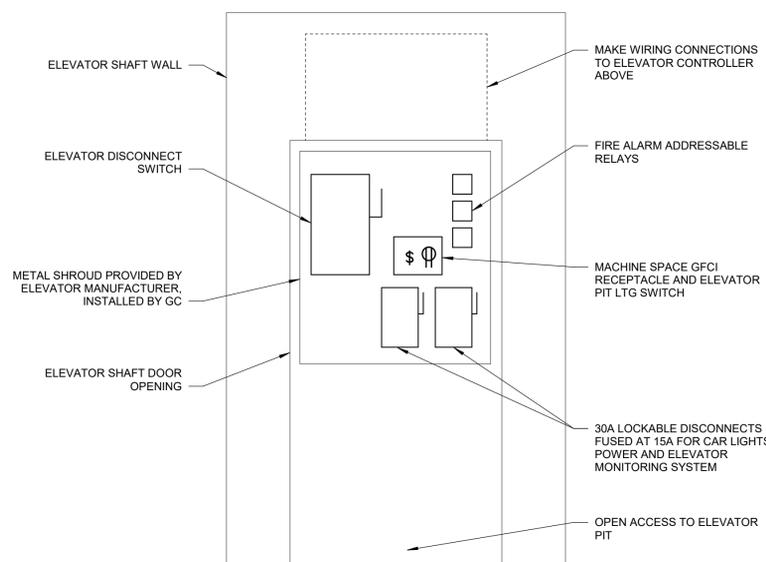


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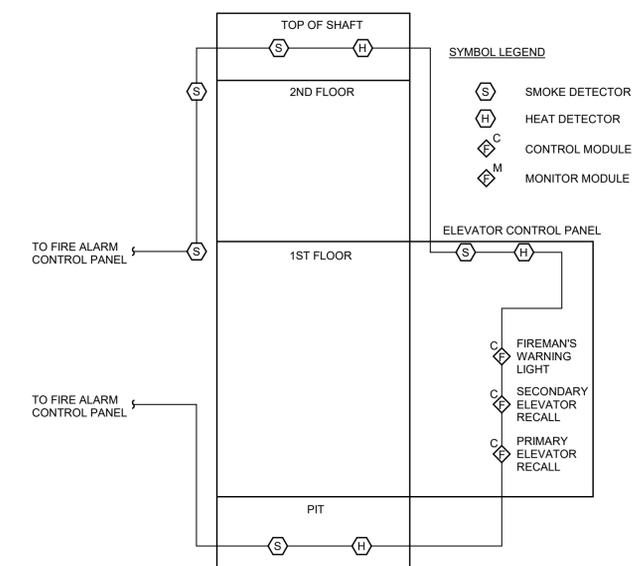
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3 MACHINE ROOM-LESS ELEVATOR CONNECTION DETAIL
SCALE: NOT TO SCALE



2 ELEVATOR FIRE ALARM DETAIL
SCALE: NOT TO SCALE

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PROJECT:
THE CITY OF MARSHALL

MARSHALL PUBLIC LIBRARY PHASE II RENOVATIONS

612 ARCHER AVE. MARSHALL, IL 62441

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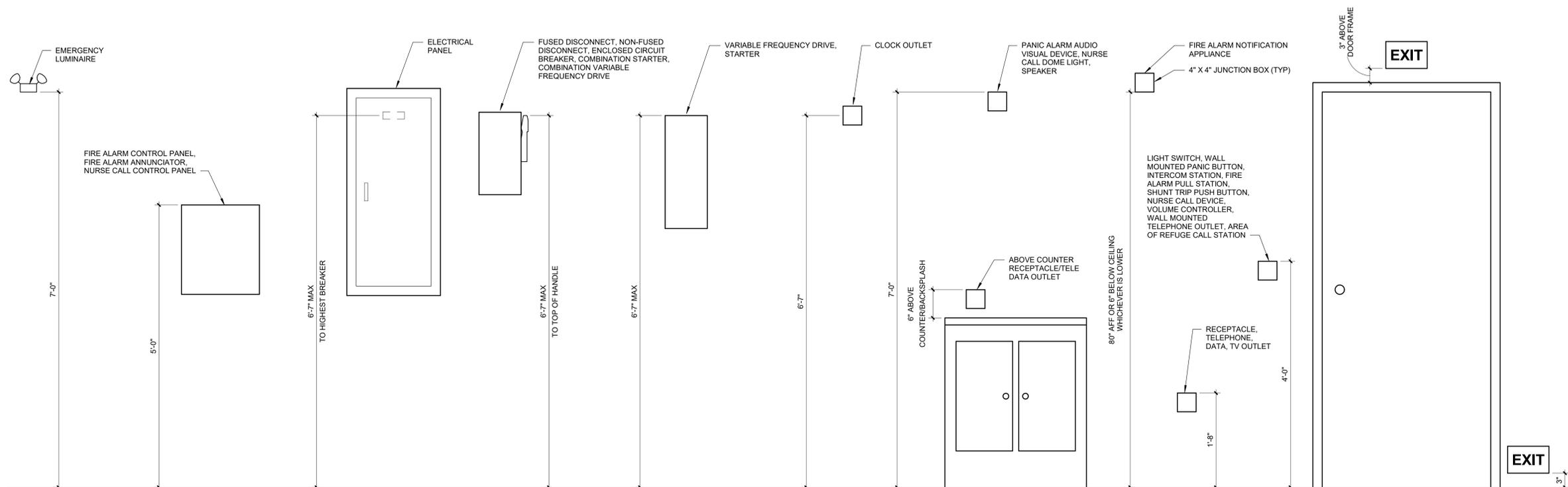
SHEET TITLE:

DETAILS

SHEET NUMBER:

E6.1

PROJECT NO.: 0230585.00



1 TYPICAL MOUNTING HEIGHT DETAIL
SCALE: NOT TO SCALE

11/14/2023 9:40:29 AM