

# WARNER LIBRARY

## 121 NORTH BROADWAY TARRYTOWN, NEW YORK 10591

# CHILDREN'S LIBRARY ACOUSTICAL TILE CEILING AND PIPE INSULATION REPLACEMENT

**OWNER:**  
Warner Library  
121 North Broadway  
Tarrytown, NY 10591

**ARCHITECT:**  
Lothrop Associates Architects D.P.C.  
333 Westchester Avenue, White Plains, NY 10604  
510 Clinton Square, Rochester, NY 14620  
125 Half Mile Road, Suite 200, Red Bank, NJ 07701  
100 Pearl Street, 14th Floor, Hartford, CT, 06103  
O: 914.741.1115

**MEP:**  
OLA CONSULTING ENGINEERS  
50 Broadway Hawthorne, NY 10532  
914.747.2800  
8 West 38th Street, Suite 501, NY, NY 10018  
646.849.4110



333 Westchester Avenue  
White Plains, New York 10604  
914-741-1115

ISSUE NO.	ISSUE DATE	DESCRIPTION
3	04/03/24	ISSUE FOR RE-BID
2	03/04/24	ISSUE FOR BID
1	12/06/23	ISSUE FOR CLIENT REVIEW

### LOCATION MAP



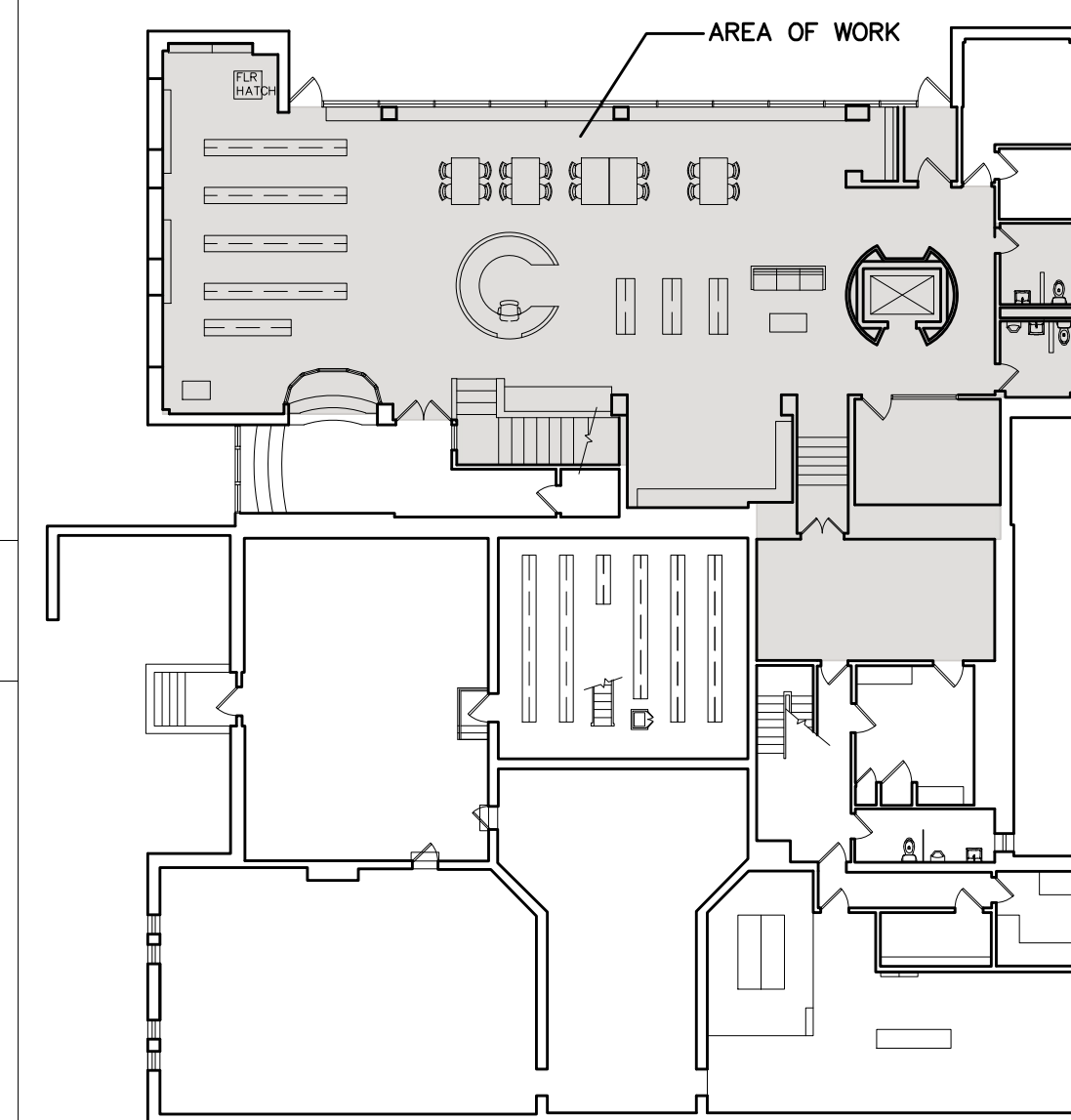
### LIST OF DRAWINGS

ARCHITECTURAL DRAWINGS		MEP ENGINEERING DRAWINGS	
A000	COVER SHEET	M-001	MECHANICAL SYMBOLS, ABBREVIATIONS, NOTES & SPECIFICATIONS
A001	GENERAL NOTES	M-002	MECHANICAL SPECIFICATIONS
A100	REFLECTED CEILING DEMOLITION PLAN LEGEND & NOTES	M-101	MECHANICAL LOWER LEVEL DEMOLITION PLAN
A101	REFLECTED CEILING PLAN & CEILING DETAILS LEGEND & NOTES	M-201	MECHANICAL LOWER LEVEL NEW WORK PLAN
		M-701	MECHANICAL DETAILS
E-001	ELECTRICAL SYMBOLS, ABBREVIATIONS, NOTES & SPECIFICATIONS	E-002	ELECTRICAL SPECIFICATIONS
E-002	ELECTRICAL SPECIFICATIONS	E-003	ELECTRICAL SPECIFICATIONS
E-101	ELECTRICAL LOWER LEVEL DEMOLITION PLAN	E-201	ELECTRICAL LOWER NEW WORK CEILING PLAN
E-201	ELECTRICAL LOWER NEW WORK CEILING PLAN	E-601	ELECTRICAL LIGHTING FIXTURE SCHEDULE
E-601	ELECTRICAL LIGHTING FIXTURE SCHEDULE	E-701	ELECTRICAL DETAILS

### ABBREVIATIONS

ACT - ACOUSTICAL CEILING TILE	HT. - HEIGHT	REQ' MNTS - REQUIREMENTS
AFC - ABOVE FINISHED COUNTER	HVAC - HEATING, VENTILATING, AND AIR CONDITIONING	SEFL - SEE ELEVATION FOR LOCATION
AFF - ABOVE FINISHED FLOOR	MFCTR - MANUFACTURER	STD(S) - STANDARD(S)
BLDG. - BUILDING	MECH - MECHANICAL	TYP. - TYPICAL
CLG - CEILING	NYS - NEW YORK STATE	U.O.N. - UNLESS OTHERWISE NOTED
DWG(S) - DRAWING(S)	O.C. - ON CENTER	
EQ - EQUAL	PT - PAINT	
EXIST/EXT'G - EXISTING	REQ'D - REQUIRED	
FIN - FINISH		
GWB - GYPSUM WALL BOARD		

### AREA OF WORK



### WARNER LIBRARY

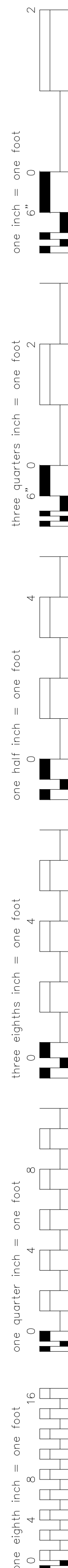
### CHILDREN'S LIBRARY ACOUSTICAL TILE CEILING AND PIPE INSULATION REPLACEMENT

### COVER SHEET

PROJECT NO.: 2639-00 SCALE:

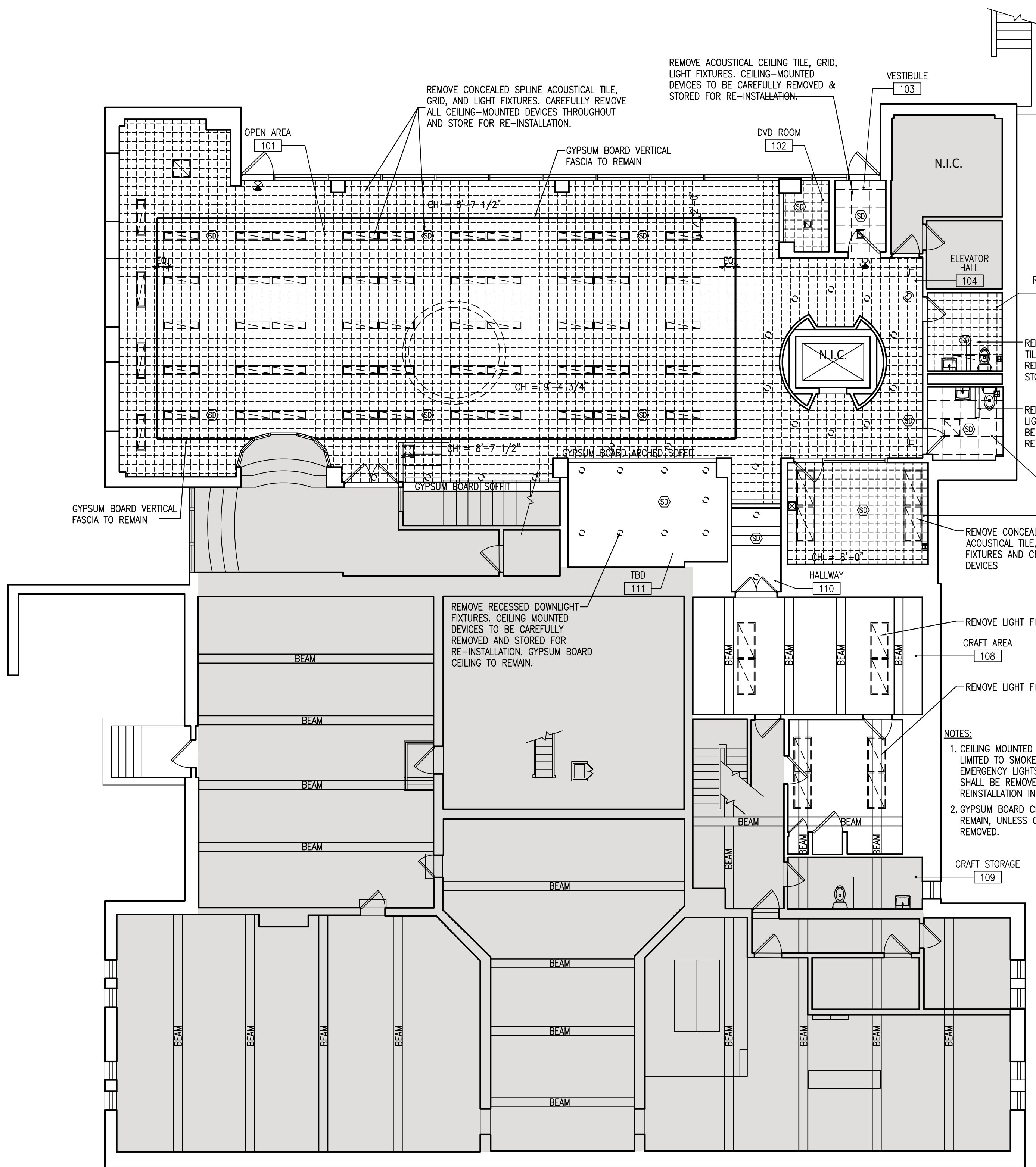
DRAWING NO.:  
**A000**

N:\10 PROJECTS\10B\EDU\2639-00 - Warner Library - Children's ACT and Piping Insulation\2639-00 - 20 Drawings\2639-00\_24\_0403 - CAD\2639-00\_24\_0403\_A000 - Cover Sheet.dwg





N:\PROJECTS\LIB\EDU\2639-00 - Warner Library - Children's ACT and Piping Insulation\2639-00 - 20 Drawings\2639-00\_24\_0109 - CAD Progress Set\2639-00\_24\_0109\_A100 - Plans.dwg  
 one eighth inch = one foot  
 one quarter inch = one foot  
 three eighths inch = one foot  
 one half inch = one foot  
 one inch = one foot  
 three quarters inch = one foot  
 one inch = one foot  
 one inch = one foot



DEMOLITION LIGHTING/CEILING LEGEND			
FIXTURE	DESCRIPTION	FIXTURE	ITEM
	1 x 4 RECESSED LIGHT FIXTURE		WALL / CEILING MOUNTED EXIT SIGN
	2 x 4 RECESSED LIGHT FIXTURE		SMOKE DETECTOR
	8" DIA. DOWNLIGHT		SUPPLY AIR DIFFUSERS
	TRACK LIGHTING		RETURN AIR, OR EXHAUST AIR, GRILLES
	CEILING GRID AND TILES		SECURITY CAMERA
			EMERGENCY FLOOD LIGHT

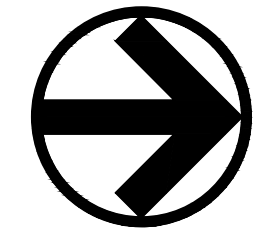
DEMOLITION LIGHTING/CEILING NOTES	
1.	ALL EXISTING LIGHT FIXTURES TO BE REMOVED AND DISPOSED COMPLETELY.
2.	ALL EXISTING CEILING DEVICES TO BE CAREFULLY REMOVED, STORED AND CLEANED FOR RE-INSTALLATION. REPLACE NEW DEVICES TO MATCH EXISTING IF NOT WORKING.
3.	EXISTING EXIT SIGNS TO BE CAREFULLY REMOVED, STORED AND CLEANED FOR RE-INSTALLATION. REPLACE NEW DEVICES TO MATCH EXISTING IF NOT WORKING.
4.	REFER TO ELECTRICAL & MECHANICAL DEMOLITION DRAWINGS FOR MORE INFORMATION.
5.	IF DAMAGED DURING CONSTRUCTION, CONTRACTOR IS RESPONSIBLE FOR THE REPLACEMENT.

- NOTES:**
1. CEILING MOUNTED DEVICES, INCLUDING, BUT NOT LIMITED TO SMOKE DETECTORS, EXIST SIGNS, EMERGENCY LIGHTS, SECURITY CAMERAS, ETC, SHALL BE REMOVED AND SAVED FOR REINSTALLATION IN SAME LOCATIONS.
  2. GYPSUM BOARD CEILINGS AND SOFFITS TO REMAIN, UNLESS OTHERWISE INDICATED TO BE REMOVED.



**333 Westchester Avenue**  
**White Plains, New York 10604**  
**914-741-1115**

ISSUE NO.	ISSUE DATE	DESCRIPTION
2	03/04/24	ISSUE FOR BID
1	12/06/23	ISSUE FOR CLIENT REVIEW



PLAN NORTH

## WARNER LIBRARY

### CHILDREN'S LIBRARY ACOUSTICAL TILE CEILING AND PIPE INSULATION REPLACEMENT

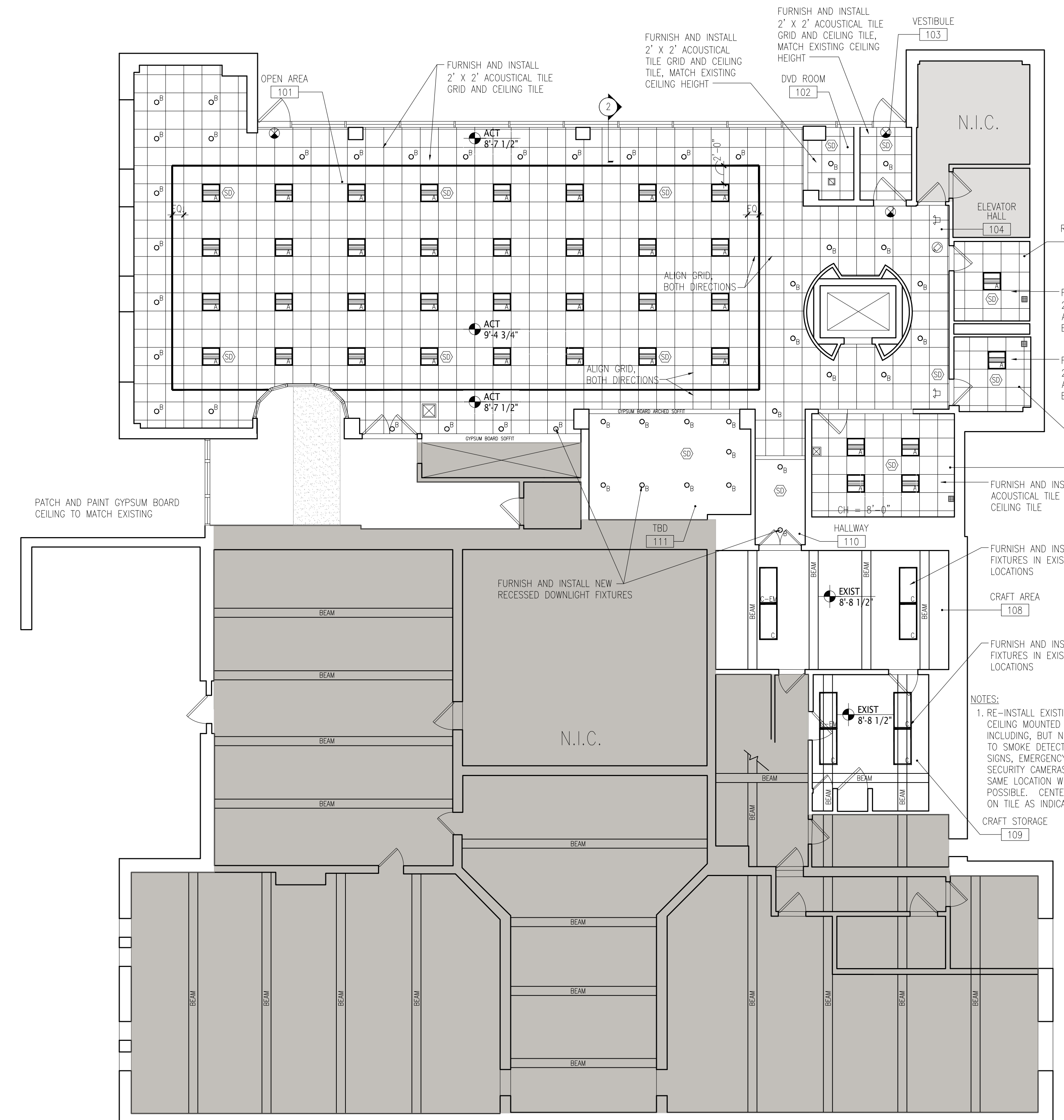
## CEILING DEMOLITION PLAN - LOWER LEVEL

PROJECT NO.: 2639-00 SCALE: 1/8" = 1'-0"

DRAWING NO.: **A100**

**1** REFLECTED CEILING PLAN - REMOVAL PLAN  
 1/8" = 1'-0"

N:\10 PROJECTS\LIB-EDU\2639-00 - Warner Library - Children's ACT and Piping Insulation\2639-00-24\_D403 - CAD\2639-00\_24\_D403\_A100 - Plans.rvt  
 one eighth inch = one foot  
 one quarter inch = one foot  
 one half inch = one foot  
 one inch = one foot  
 three eighths inch = one foot  
 three quarters inch = one foot  
 one inch = one foot  
 two inches = one foot  
 three inches = one foot  
 four inches = one foot  
 six inches = one foot  
 eight inches = one foot  
 twelve inches = one foot  
 sixteen inches = one foot



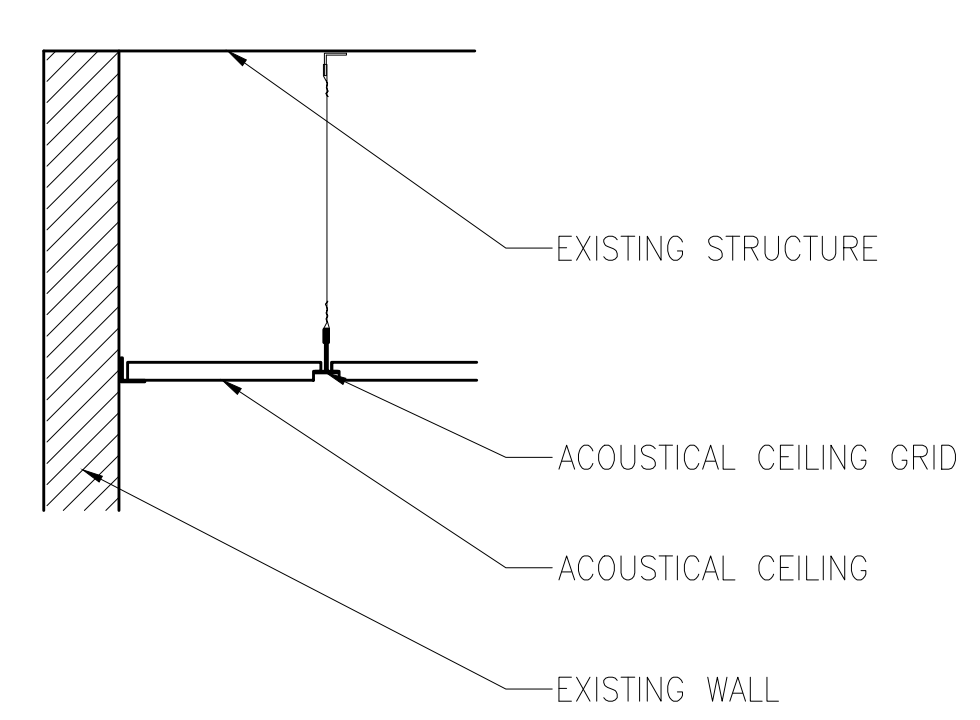
**1 REFLECTED CEILING PLAN - CONSTRUCTION PLAN**  
 1/8" = 1'-0"

**LIGHTING/CEILING LEGEND**

FIXTURE	DESCRIPTION	FIXTURE	ITEM
	24" X 24" RECESSED LIGHT FIXTURE BY FOCAL POINT ZEPHYR 2X2 SPEC#: FZR-22-FL-3500L-30K-1C-UNV-G-WH		WALL OR CEILING MOUNTED EXIT SIGN
	24" X 24" RECESSED DOWNLIGHT BY FOCAL POINT ZEPHYR 2X2 SPEC#: FZR-22-FL-3500L-30K-1C-UNV-G-EM-WH		SMOKE DETECTOR - RE-INSTALL EXISTING
	3.5" DIA. RECESSED DOWNLIGHT BY FOCAL POINT ID+3.5" SPEC#: FLC3D-RO-SW-900L-UNV-LC3-35K-WH		NEW SUPPLY AIR DIFFUSERS
	3.5" DIA. RECESSED DOWNLIGHT BY FOCAL POINT ID+3.5" SPEC#: FLC3D-RO-SW-900L-UNV-EMR-LC3-35K-WH		NEW RETURN AIR, OR EXHAUST AIR, GRILLES
	24" X 48" SURFACE MOUNTED LIGHT FIXTURE BY FOCAL POINT AMICA2 2X4 #FAM2-24-ACR-5000L-30K-1C-UNV-C24-WH		SECURITY CAMERA - RE-INSTALL EXISTING
	24" X 48" SURFACE MOUNTED LIGHT FIXTURE BY FOCAL POINT AMICA2 2X4 #FAM2-24-ACR-5000L-30K-1C-UNV-C24-EM-WH		EMERGENCY FLOOD LIGHT - RE-INSTALL EXISTING
	CEILING TILE BY OWA - OCTAVE-70 HIGH CAC RE 9/16" - 24"X24"X3/4" WITH CEILING GRID BY OWA/CLIQ 9/16" #CLIQ-9/16-MR, CLIQ-9/16-CT, AND 50/15G		CEILING MATERIAL/HEIGHT

**LIGHTING/CEILING NOTES**

- RE-INSTALL EXISTING CEILING DEVICES INCLUDING BUT NOT LIMITED TO: SMOKE DETECTORS, EMERGENCY FLOOD LIGHTS, SECURITY CAMERAS, DIFFUSERS AND RETURN GRILLES.
- SEE RCP FOR ACOUSTICAL CEILING HEIGHTS.
- REFER TO ELECTRICAL & MECHANICAL DRAWINGS FOR MORE INFORMATION.
- ALL LIGHT FIXTURES ARE NEW UNLESS OTHERWISE NOTED.



**2 TYP. ACT - WALL TO CEILING DETAIL**  
 1 1/2" = 1'-0"

**Lothrop**  
 Associates Architects D.P.C.  
 333 Westchester Avenue  
 White Plains, New York 10604  
 914-741-1115

ISSUE NO.	ISSUE DATE	DESCRIPTION
3	04/03/24	ISSUE FOR RE-BID
2	03/04/24	ISSUE FOR BID
1	12/06/23	ISSUE FOR CLIENT REVIEW

PLAN NORTH

**WARNER LIBRARY**  
**CHILDREN'S LIBRARY**  
**ACOUSTICAL TILE CEILING**  
**AND PIPE INSULATION**  
**REPLACEMENT**

**REFLECTED CEILING PLAN**  
**- LOWER LEVEL**

PROJECT NO.: 2639-00    SCALE: 1/8" = 1'-0"

DRAWING NO.:  
**A101**

SYMBOLS AND ABBREVIATIONS			SYMBOL			ABBREVIATION			DESCRIPTION		
-	AC-	AIR CONDITIONING UNIT		CD	1-WAY						
-	AD	ACCESS DOOR		CD	2-WAY						
-	AFF	ABOVE FINISHED FLOOR		CD	2-WAY						
-	AHC	ABOVE HUNG CEILING		CD	3-WAY						
-	AP	ACCESS PANEL		CD	4-WAY						
-	BHP	BRAKE HORSEPOWER		RR/RG/ER	RETURN REGISTER/GRILLE/EXHAUST REGISTER						
-	BTU	BRITISH THERMAL UNIT		-	SUPPLY DUCT UP						
-	CFM	CUBIC FEET PER MINUTE		-	SUPPLY DUCT DOWN						
-	COD	CABLE OPERATED DAMPER		-	RETURN DUCT UP						
-	DB	DRY BULB TEMPERATURE		-	RETURN DUCT DOWN						
-	DIA. OR Ø	DIAMETER		-	TRANSITION FROM SQUARE TO ROUND DUCT						
-	DX	DIRECT EXPANSION		-	TRANSITION						
-	DTS	DUAL TEMPERATURE SUPPLY		-	DUCT DROP						
-	DTR	DUAL TEMPERATURE RETURN		-	DUCT RISE						
-	EA	EXHAUST AIR		-	SQUARE VANED ELBOW						
-	EAT	ENTERING AIR TEMPERATURE		-	DUCT RISE						
-	ER	EXHAUST REGISTER		-	DUCT DROP						
-	ESP	EXTERNAL STATIC PRESSURE		-	DUCT TRANSITION						
-	EWT	ENTERING WATER TEMPERATURE		-	ALUMINUM DUCT						
-	FCU	FAN COIL UNIT		AL	ACOUSTIC LINING						
-	FPM	FEET PER MINUTE		FD/AD	FIRE DAMPER W/ ACCESS DOOR						
-	FPS	FEET PER SECOND		SD/AD	SMOKE DAMPER W/ ACCESS DOOR						
-	GPM	GALLONS PER MINUTE		CFSD	COMBINATION FIRE/SMOKE DAMPER W/ ACCESS DOOR						
-	HP	HORSE POWER		VD	VOLUME DAMPER						
-	LAT	LEAVING AIR TEMPERATURE		AL	ACOUSTIC LINING						
-	LF	LINEAR FEET		-	DUCT SIZE - 1ST FIGURE IS SIDE SHOWN						
-	LWT	LEAVING WATER TEMPERATURE		FC	FLEXIBLE CONNECTION						
-	MBH	1000 BRITISH THERMAL UNITS PER HOUR		-	ALUMINUM DUCT						
-	MER	MECHANICAL EQUIPMENT ROOM		-	EXHAUST REGISTER						
-	NIC	NOT IN CONTRACT		-	NEW CEILING DIFFUSER						
-	OAI	OUTSIDE AIR INTAKE	NOTE: FOR REFERENCE ONLY. NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED IN THIS PROJECT.								
-	PSI	POUNDS PER SQUARE INCH									
-	RA	RETURN AIR									
-	RF-	RETURN FAN									
-	RPM	REVOLUTIONS PER MINUTE									
-	SA	SUPPLY AIR									
-	SP	STATIC PRESSURE									
-	TD	TRANSFER DUCT									
-	TF-	TRANSFER FAN									
-	TSP	TOTAL STATIC PRESSURE									
-	TYP.	TYPICAL									
-	U.O.N.	UNLESS OTHERWISE NOTED									
-	WB	WET BULB TEMPERATURE									
-	WG	INCHES OF WATER GAUGE									
---	EX.	EXISTING TO REMAIN									
----	REL.	REMOVE AND RELOCATE									
=====	NEW	NEW WORK									
----	DEM.	EXISTING TO BE REMOVED									
Ⓢ	-	THERMOSTAT									
→+	-	AIR INTO REGISTER									
⊗	-	POINT OF CONNECTION DISCONNECTION									
→	SR	SUPPLY REGISTER									

### GENERAL NOTES

- CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO THE BEGINNING OF WORK AND COORDINATE NEW WORK.
- PROVIDE ALL PIPE OPENINGS THROUGH PARTITIONS WITH PIPE SLEEVES. FOR PIPES PENETRATING FIRE RATED PARTITIONS, THE SPACE BETWEEN THE PIPE AND THE SLEEVE SHALL BE SEALED WITH FIRE STOPPING MATERIAL.
- THIS CONTRACTOR SHALL SUBMIT FOR REVIEW A COMPOSITE SHOP DRAWING, FULLY COORDINATED WITH ALL OTHER TRADES, INDICATING DUCTWORK, PLUMBING PIPING, SMOKE DETECTORS, LIGHTS, CONDUITS, DIFFUSERS, GRILLES, ETC.
- CONTRACT DRAWINGS AS FAR AS THEY RELATE TO THE GENERAL ARRANGEMENT AND LOCATION OF EQUIPMENT, PIPING AND SHEETMETAL, SHALL BE UNDERSTOOD AS DIAGRAMMATIC. ANY CHANGES TO SHEETMETAL AND EQUIPMENT LOCATIONS NECESSARY TO AVOID INTERFERENCE WITH OTHER TRADES SHALL BE MADE AT NO EXTRA COST.
- ALL PRODUCTS SPECIFIED ARE FOR BASIS OF DESIGN PURPOSES ONLY. APPROVED EQUAL PRODUCTS ARE ACCEPTABLE.

### EQUIPMENT NOTES

- PIPE INSULATION: SHALL BE BASED ON JOHNS MANVILLE MICRO-LOK HP HIGH PERFORMANCE FIBERGLASS PIPE INSULATION WITH FACTORY-APPLIED VAPOR BARRIER JACKET WITH SELF-SEALING CLOSURE CAP.

SYMBOL			ABBREVIATION			DESCRIPTION		
	CD	1-WAY						
	CD	2-WAY						
	CD	3-WAY						
	CD	4-WAY						
	RR/RG/ER	RETURN REGISTER/GRILLE/EXHAUST REGISTER						
	-	SUPPLY DUCT UP						
	-	SUPPLY DUCT DOWN						
	-	RETURN DUCT UP						
	-	RETURN DUCT DOWN						
	-	TRANSITION FROM SQUARE TO ROUND DUCT						
	-	TRANSITION						
	-	DUCT DROP						
	-	DUCT RISE						
	-	SQUARE VANED ELBOW						
	-	DUCT RISE						
	-	DUCT DROP						
	-	DUCT TRANSITION						
	-	ALUMINUM DUCT						
	AL	ACOUSTIC LINING						
	FD/AD	FIRE DAMPER W/ ACCESS DOOR						
	SD/AD	SMOKE DAMPER W/ ACCESS DOOR						
	CFSD	COMBINATION FIRE/SMOKE DAMPER W/ ACCESS DOOR						
	VD	VOLUME DAMPER						
	AL	ACOUSTIC LINING						
	-	DUCT SIZE - 1ST FIGURE IS SIDE SHOWN						
	FC	FLEXIBLE CONNECTION						
	-	ALUMINUM DUCT						
	-	EXHAUST REGISTER						
	-	NEW CEILING DIFFUSER						

**M-1 SCOPE OF WORK**  
A.) THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, APPLIANCES, SERVICES, HOISTING, SCAFFOLDING, SUPERVISION AND OVERHEAD FOR THE FURNISHING AND INSTALLING OF ALL THE HEATING, VENTILATING AND AIR CONDITIONING AND RELATED WORK COMPLETE, IN ACCORDANCE WITH THE DRAWINGS, SCHEDULES AND SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

- INSTALLATION OF NEW INSULATION ON DUAL TEMPERATURE SUPPLY & RETURN PIPING.
- INSTALLATION OF NEW CONDENSATE DRAIN PIPING.

**M-2 WORK EXCLUDED**  
A.) THE FOLLOWING ITEMS ARE EXCLUDED FROM THIS SECTION OF WORK:  
1.) MOUNTING AND POWER WIRING FOR ALL MOTOR STARTERS.  
2.) ALL ELECTRIC POWER WIRING EXCEPT WHERE FURNISHED AS AN INTEGRAL PART OF FACTORY ASSEMBLED EQUIPMENT OR AS OTHERWISE REQUIRED FOR AUTOMATIC TEMPERATURE CONTROLS, VARIOUS SAFETY CONTROLS AND MOTOR INTERLOCKS.

**M-3 GENERAL REQUIREMENTS**  
A.) CONSTRUCT ALL APPARATUS OF MATERIALS AND PRESSURE RATINGS SUITABLE FOR THE CONDITIONS ENCOUNTERED DURING CONTINUOUS OPERATION.  
B.) WHERE CORROSION CAN OCCUR, APPROPRIATE CORROSION-RESISTANT MATERIALS AND ASSEMBLY METHODS SHALL BE USED, INCLUDING ISOLATION OF DISSIMILAR METALS AGAINST GALVANIC INTERACTION. RESISTANCE TO CORROSION SHALL BE ACHIEVED BY THE USE OF THE APPROPRIATE BASE MATERIALS COATINGS SHALL BE RESORTED TO ONLY WHEN SPECIFICALLY PERMITTED BY THE SPECIFICATIONS.  
C.) CONSTRUCT ALL EQUIPMENT IN ACCORDANCE WITH REQUIREMENTS OF ALL APPLICABLE CODES. ALL PRESSURE VESSELS AND SAFETY DEVICES THAT FALL WITHIN THE SCOPE OF THE ASME CODE SHALL CONFORM TO THE CODE AND BEAR THE ASME LABEL OR STAMP.  
D.) MATCH AND BALANCE ALL SYSTEM COMPONENTS TO ACHIEVE COMPATIBILITY OF EQUIPMENT FOR SATISFACTORY OPERATION AND PERFORMANCE THROUGHOUT THE ENTIRE OPERATING TEMPERATURE AND CONTROL RANGES. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND GUIDELINES.  
E.) UPON COMPLETION OF WORK, THE ENTIRE MECHANICAL SYSTEM SHALL BE OPERATED IN THE PRESENCE OF THE OWNER TO DEMONSTRATE THAT ALL COMPONENTS ARE INSTALLED AND OPERATING PROPERLY.  
F.) PROVIDE ALL CONTROLS, WIRING (EXCEPT POWER WIRING FOR MOTORS), PIPING, VALVES, ACCESSORIES AND OTHER COMPONENTS NECESSARY TO MAKE ALL SYSTEMS COMPLETE AND OPERABLE.

**M-4 REMOVALS**  
A.) REMOVE AND DISPOSE OF ALL EQUIPMENT, DUCTWORK, PIPING, DIFFUSERS AND ACCESSORIES WITHIN THE PROJECT AREA AS SHOWN ON THE DRAWINGS OR AS REQUIRED FOR THE INSTALLATION OF THE WORK OF THIS PROJECT.  
B.) THIS WORK SHALL BE EXECUTED IN AN ORDERLY AND CAREFUL MANNER, WITH DUE CONSIDERATION FOR THE PROTECTION OF ADJACENT ACTIVITIES. DUST PRODUCING DEMOLITION SHALL BE ISOLATED WITH PROPER PRECAUTIONS.  
C.) THE CONTRACTOR SHALL ASK THE OWNER FOR INSTRUCTIONS IF HE/SHE ENCOUNTERS DEMOLITION WORK WHICH MIGHT RESULT IN A HAZARDOUS CONDITION.  
D.) MECHANICAL DEMOLITION INDICATED ON THE DRAWING IS ACCORDING TO THE BEST INFORMATION AVAILABLE. CONTRACTOR SHALL VERIFY ALL DEMOLITION WORK WITHIN THE AREA AND SHALL CONDUCT REMOVALS, AS REQUIRED, OR AS INSTRUCTED BY THE OWNER.

**M-5 DUST PROTECTION**  
A.) IT IS IMPERATIVE THAT DURING DEMOLITION, AND ALSO DURING NORMAL CONSTRUCTION, WHERE THERE IS ANY POSSIBILITY OF DUST DUE TO CONSTRUCTION WORK CONTAMINATING THE OWNER'S EQUIPMENT OR CAUSING A NUISANCE TO PERSONNEL, THIS CONTRACTOR SHALL FURNISH AND INSTALL SUITABLE PROTECTION AS REQUIRED.  
B.) WHEREVER POLYETHYLENE IS USED AS PROTECTIVE TARPULINS OR DROP CLOTH, IT SHALL BE FIRE-RETARDANT POLYETHYLENE SHEETING, .004" THICK.

**M-6 TIME AND MANNER**  
A.) ALL WORK SHALL BE PERFORMED DURING NORMAL WORKING HOURS UNLESS OTHERWISE DIRECTED BY THE OWNERS REPRESENTATIVE.  
B.) PRIOR TO THE BEGINNING OF WORK THE CONTRACTOR SHALL SUBMIT A SCHEDULE OF WORK TO THE OWNER. ANY SHUTDOWNS OF EXISTING EQUIPMENT AND/OR SYSTEMS SHALL BE VERIFIED IN WRITING WITH THE OWNER'S REPRESENTATIVE.  
C.) ANY SHUT-DOWN OF EXISTING SYSTEMS WHERE SUCH SHUT-DOWN IS REQUIRED FOR THE PERFORMANCE OF THE WORK UNDER THE CONTRACT SHALL BE AT SUCH TIMES AS DESIGNATED BY OWNER'S REPRESENTATIVE. RESTORE SYSTEMS TO ORIGINAL CONDITION AFTER PERFORMANCE WORK. THE INTENT IS TO INSURE MINIMUM INTERFERENCE WITH OPERATION OF EXISTING FACILITIES. REPAIR ANY DAMAGE DONE TO BUILDING RESULTING FROM INSTALLATION OF NEW WORK.

**M-7 SITE INSPECTION**  
A.) VISIT SITE BEFORE SUBMITTING BID. INSPECT AND VERIFY ALL CONDITIONS WHICH MAY AFFECT COST OF INSTALLATION. VERIFY EXACT LOCATION OF

ALL EXISTING PIPES, DUCTS, BEAMS, ETC., WHETHER SHOWN ON THE DRAWINGS OR NOT, SO FAR AS THESE LOCATIONS RELATE TO THE NEW WORK. PROVIDE ANY OFFSETS IN NEW PIPING OR DUCTS AS MAY BE REQUIRED FOR PROPER CLEARANCES TO AVOID EXISTING DUCTS, CABLES OR OTHER OBSTRUCTION.

**M-8 RUBBISH REMOVAL**  
A.) EQUIPMENT, DUCTWORK, ETC., SPECIFIED TO BE REMOVED AND RUBBISH CAUSED BY CONSTRUCTION SHALL BE REMOVED FROM THE CONSTRUCTION SITE.

**M-9 CUTTING AND PATCHING**  
A.) THE CONTRACTOR SHALL PROVIDE ALL CUTTING REQUIRED FOR DUCTS, PIPING AND CONTROL CONDUITS PASSING THROUGH WALLS, FLOORS, ETC.  
B.) PENETRATIONS FOR PIPING SHALL BE MADE BY CORE DRILLING WHENEVER POSSIBLE.  
C.) PATCHING SHALL BE PROVIDED BY THE GENERAL CONTRACTOR EXCEPT WHERE DAMAGE AND/OR REPAIRS ARE NECESSITATED DUE TO ERROR OR NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS SUB-CONTRACTORS.

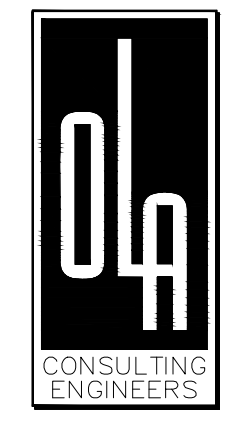
**M-10 SHOP DRAWINGS AND SUBMITTALS REQUIRED**  
A.) MANUFACTURER'S DATA OR SHOP DRAWINGS OF THE FOLLOWING APPARATUS GIVING FULL INFORMATION AS TO CATALOG NUMBERS, DIMENSIONS, MATERIALS AND ALL INFORMATION PERTINENT TO THE ADEQUACY OF THE SUBMITTED EQUIPMENT SHALL BE SUBMITTED FOR REVIEW:  
1.) HANGERS AND INSERTS.  
2.) INSULATION.

**M-11 PIPE INSULATION**  
A.) INSULATE ALL NEW PIPING AND ALL EXISTING PIPING WITH PRE-FORMED PIPE INSULATION. INSULATION SHALL HAVE A MAXIMUM FLAME SPREAD INDEX OF 25 AND A SMOKE-DEVELOPED INDEX NOT EXCEEDING 450. PIPE INSULATION INSTALLED WITHIN AIR PLENUMS SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E84 OR UL 723. REFER TO PIPE INSULATION SCHEDULE FOR INSULATION THICKNESS.  
B.) PIPING VALVES AND FITTINGS ON ALL INSULATED PIPES SHALL BE PROVIDED WITH FABRICATED SECTIONS OF INSULATION OR PRE MOLDED FITTING COVERS EQUAL IN THICKNESS AND MATERIAL TO ADJOINING PIPE INSULATION.  
C.) ALL INSULATION SHALL BE APPLIED AS PER MANUFACTURER'S RECOMMENDATIONS WITH USE OF 2" STRIPS AT ALL SEAMS SECURED WITH ADHESIVE. ALL SEAMS AND JOINTS SHALL BE VAPOR SEALED USING VAPOR BARRIER TAPE AND VAPOR SEAL ADHESIVE. STAPLES ARE NOT PERMITTED. ALL INSULATION AND VAPOR BARRIERS SHALL BE CONTINUOUS THROUGH SLEEVES, HANGERS, ETC. INSULATION FOR STRAINERS AND OTHER FITTINGS OR ACCESSORIES REQUIRING SERVICING OR INSPECTION SHALL HAVE INSULATION REMOVABLE AND REPLACEABLE WITHOUT DAMAGE.  
D.) ALTERNATE MANUFACTURERS:  
1.) ARMSTRONG  
2.) JOHNS MANVILLE  
3.) OWENS-CORNING  
E.) PIPE INSULATION JACKETING: SHALL BE WHITE ZESTON 2000 PVC COVERS FOR PIPING AND FITTINGS. JACKET ALL PIPING AND FITTING THAT ARE EXPOSED IN ANY ROOM.  
F.) PIPE LABELS: SHALL BE SETON ULTRA-MARK WEATHER RESISTANT FOR OUTDOOR APPLICATION AND OPTI-CODE FOR INDOOR APPLICATION. LETTERS AND ARROWS SHALL BE 2 1/2" HIGH AND SHALL BE WHITE ON A GREEN BACKGROUND AND SHALL CONFORM TO ANSI AND OSHA STANDARDS. APPLY OVER INSULATION ONLY.

**M-12 PIPING INSTALLATION - GENERAL REQUIREMENTS**  
A.) REFER TO DRAWINGS FOR REQUIRED PIPING LAYOUTS. CONNECTION DETAILS INDICATE REQUIRED PIPING AT VARIOUS PIECES OF EQUIPMENT. FLOOR PLANS INDICATE GENERAL ROUTING OF PIPING. SPECIFICATIONS DEFINE MATERIALS, INSTALLATION REQUIREMENTS AND SUPPLEMENTARY REQUIREMENTS TO THOSE SHOWN ON DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COMPLETE SYSTEM BASED ON ALL DOCUMENTATION PROVIDED. TO EQUIPMENT SCHEDULES FOR NOMINAL FLOW RATES. FINAL SIZING SHALL BE BASED ON FLOW RATE OF CONTRACTOR PURCHASED EQUIPMENT.  
B.) WHERE DRAWING DETAILS REFER BRANCH PIPE SIZING TO FLOW RATES, REFER TO DRAWINGS.  
C.) PIPING SHALL BE INSTALLED IN STRAIGHT PARALLEL RUNS, PARALLEL TO PIPING OF OTHER TRADES. ROUTING SHALL BE COORDINATED WITH PIPING AND CONDUIT RUNS OF OTHER TRADES.  
D.) ALL PIPE SHALL BE NEW, CLEAN, OF DOMESTIC MANUFACTURE, AND MARKED WITH APPROPRIATE STANDARD.  
E.) PIPING SHALL BE INSTALLED TO MINIMIZE TURBULENCE AND PREVENT NOISE AND WATER HAMMER. WATER PIPING SHALL PITCH 1" IN 40 FEET, UPWARD IN DIRECTION OF FLOW. PROPER PROVISION SHALL BE MADE FOR EXPANSION AND CONTRACTION IN ALL PORTIONS OF PIPEWORK, TO PREVENT UNDUE STRAINS ON PIPING OR EQUIPMENT. ALL PIPE SHALL BE SUITABLY REINFORCED AT ALL ANCHOR POINTS.  
F.) PIPE SUPPORTS SHALL BE SPACED, REDUCERS ARRANGED AND PIPING PITCHED TO ALLOW AIR TO BE VENTED TO SYSTEM HIGH POINTS AND TO ALLOW THE SYSTEM TO BE DRAINED AT THE LOW POINTS. DRAIN VALVES



**333 Westchester Avenue  
White Plains, New York 10604  
914-741-1115**



OLA Consulting Engineers  
50 Broadway,  
Hawthorne, NY 10532  
914.747.2800  
8 West 38th Street,  
Suite 501  
New York, NY 10018  
646.849.4110  
olace.com

ISSUE NO.	ISSUE DATE	DESCRIPTION
3	03/04/2024	ISSUED FOR BID
2	11/22/2023	100% CDs - ISSUE FOR CLIENT REVIEW
1	08/22/2023	ISSUED FOR SCHEMATIC DESIGN

## WARNER LIBRARY

### CHILDREN'S LIBRARY ACOUSTICAL TILE CEILING AND PIPE INSULATION REPLACEMENT

## MECHANICAL SYMBOLS, ABBREVIATIONS, NOTES & SPECIFICATIONS 1 OF 2

PROJECT NO.: NLA0034.00 SCALE: AS NOTED

DRAWING NO:  
**M-001**

**SPECIFICATIONS CONTINUED**

WITH HOSE CONNECTIONS SHALL BE PROVIDED AT THE BASE OF EACH RISER, AT ALL LOW POINTS AND WHEREVER REQUIRED TO PERMIT COMPLETE DRAINING OF ALL LINES.

G.) AUTOMATIC FLOAT TYPE AIR VENTS SHALL BE PROVIDED AT HIGH POINTS OF WATER LINES AND WHEREVER REQUIRED TO ALLOW AIR TO VENT FROM SYSTEM. EACH VENT SHALL HAVE A DRAIN LINE PIPED TO NEAREST INDIRECT WASTE.

H.) RUN OUTS, AND CONNECTIONS TO EQUIPMENT, SHALL BE PROVIDED WITH A SWING JOINT OR FLEXIBLE CONNECTION TO WITHSTAND EXPANSION AND CONTRACTION. RISERS SHALL HAVE SWING JOINTS COMPOSED OF AT LEAST 4 ELBOWS.

I.) ALL CHANGES IN SIZE AND DIRECTION OF PIPING SHALL BE MADE WITH FITTINGS. DO NOT USE MITER FITTINGS, FACE OR FLUSH BUSHINGS, CLOSE NIPPLES OR STREET ELBOWS. ALL NIPPLES (PIPE LESS THAN 3" LONG) SHALL BE EXTRA HEAVY.

J.) ALL BRANCH CONNECTIONS SHALL BE MADE WITH TEES, EXCEPT THAT ON STEEL PIPING FORGED STEEL "WELDOLETS" AND "LATROLETS" AS MANUFACTURED BY BONNEY FORGE MAY BE USED WHERE THE BRANCH PIPE IS AT LEAST TWO NOMINAL PIPE SIZES LESS THAN THE MAIN PIPE.

K.) ECCENTRIC REDUCING FITTINGS OR ECCENTRIC REDUCING COUPLINGS SHALL BE USED WHERE REQUIRED BY THE CONTRACT DOCUMENTS OR WHERE REQUIRED TO PREVENT POCKETING OF LIQUID OR NON-CONDENSIBLES.

L.) FITTINGS SHALL BE FACTORY MANUFACTURED. SHOP OR FIELD FABRICATED FITTINGS ARE NOT ACCEPTABLE. WELDING FITTINGS SHALL BE "TUBE-TURNS" OR EQUIVALENT. FITTINGS SHALL HAVE THE SAME PRESSURE RATING AS THE SYSTEM IN WHICH THEY ARE INSTALLED.

M.) ELECTROLYTIC COUPLINGS OR UNIONS SHALL BE INSTALLED BETWEEN COPPER AND STEEL PIPE.

N.) ALL JOINTS SHALL BE MADE IN A WORKMANLIKE MANNER USING CLEAN THREADS, DEBURRED PIPE AND PROPER MATERIALS. ALL JOINTS SHALL CONFORM TO THE APPLICABLE ANSI AND ASTM STANDARDS. QUALIFY WELDERS TO THE CODE FOR PRESSURE PIPING ANSI SPECIFICATIONS B31.1, WITH CERTIFICATION BY THE WELDING BUREAU OF HEATING, PIPING AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION. ASME STAMP SHALL BE PROVIDED AS REQUIRED.

O.) RUN OUTS, AND CONNECTIONS TO EQUIPMENT, SHALL BE PROVIDED WITH A SWING JOINT OR FLEXIBLE CONNECTION TO WITHSTAND EXPANSION AND CONTRACTION. RISERS SHALL HAVE SWING JOINTS COMPOSED OF AT LEAST 4 ELBOWS.

Q.) PIPING MATERIALS: REFER TO PIPING MATERIAL SCHEDULE.

R.) PIPE FITTINGS: REFER TO PIPING MATERIAL SCHEDULE.

S.) PIPING CONNECTIONS TO EQUIPMENT

1.) FLANGES OR UNIONS SHALL BE PROVIDED AT ALL FINAL CONNECTIONS TO EQUIPMENT AND CONTROL VALVES TO FACILITATE DISMANTLING. OFFSETS SHALL BE PROVIDED AND CONNECTIONS ARRANGED SO THAT THE EQUIPMENT BEING SERVED MAY BE REMOVED WITHOUT DISTURBING THE PIPING.

2.) ALL AUTOMATIC VALVES SHALL BE PROVIDED WITH A GATE VALVE AND A STRAINER ON THE INLET SIDE.

3.) HANGERS AND SUPPORTS FOR CONNECTED EQUIPMENT SHALL CONFORM TO THE CRITERIA FOR PIPING. NO WIRE, TAPE OR METAL BANDS ARE PERMITTED.

4.) INSTALL ALL SUPPLY PIPING TO EQUIPMENT INCLUDING GATE VALVES AND STRAINERS AT LINE SIZE WITH THE REDUCTION IN SIZE BEING MADE ONLY AT THE INLET TO THE CONTROL VALVE OR PUMP. INSTALL THE OUTLET PIPING FROM THE CONTROL VALVE AT THE FULL SIZE OF THE TAPPING IN THE EQUIPMENT SERVED.

5.) FOR EQUIPMENT MOUNTED ON ISOLATION BASES AND WHEREVER INDICATED ON DRAWING AND DETAILS, MASON INDUSTRIES TYPE BSS STAINLESS STEEL BRAIDED FLEXIBLE HOSE CONNECTIONS OR EQUIVALENT SHALL BE PROVIDED.

T.) VALVES

1.) ALL HAND VALVES, CHECK-VALVES, VENT VALVES, COCKS, ETC., SHALL BE FURNISHED AND INSTALLED AS REQUIRED FOR THE COMPLETE AND PROPER VALVING OF THE ENTIRE INSTALLATION AS DEFINED HEREIN. VALVES SHALL HAVE THE SAME PRESSURE RATING AS THE SYSTEM IN WHICH THEY ARE INSTALLED.

2.) VALVES WITH HAND-WHEELS SHALL BE INSTALLED HORIZONTALLY OR VERTICALLY UPWARD UNLESS SPECIFICALLY SHOWN OTHERWISE. ALL VALVES SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS TO FACILITATE EASY REMOVAL FOR REPAIR OR REPLACEMENT.

3.) VALVES SHALL BE FULL LINE SIZE UNLESS OTHERWISE NOTED. ALL DRAIN VALVES IN EQUIPMENT ROOMS SHALL BE LOCATED AT AN ELEVATION NOT GREATER THAN 6'-0" ABOVE FLOOR AND SHALL BE PROVIDED WITH 3/4" HOSE CONNECTIONS.

4.) VALVES SHALL BE CAPABLE OF BEING REPACKED WHILE WIDE OPEN AND OPERATING AT THEIR RATED PRESSURE.

5.) UNLESS OTHERWISE NOTED OR REQUIRED BY THE APPLICATION, SCREWED VALVES SHALL BE OF BRONZE CONSTRUCTION AND FLANGED VALVES OF CAST IRON CONSTRUCTION WITH BRONZE TRIM. GLOBE AND CHECK VALVE DISCS SHALL BE IN ACCORDANCE WITH MANUFACTURERS

RECOMMENDATIONS FOR THE SERVICE. ALL CAST IRON BODY VALVES SHALL HAVE RENEWABLE BRONZE SEAT RINGS AND BRONZE SPINDLES.

6.) IN GENERAL, USE GLOBE VALVES FOR ALL THROTTLING SERVICE (INCLUDING PUMP DISCHARGES). FOR WATER LINES 3" AND OVER, ECCENTRIC PLUG VALVES SHALL BE USED. WHERE BUTTERFLY OR BALL VALVES ARE SPECIFIED THESE TYPES SUFFICE FOR THROTTLING. BALL VALVES USED FOR BALANCING SHALL HAVE LOCKING STOP.

7.) HORIZONTAL CHECK VALVES SHALL GENERALLY BE 15 DEGREE SWING CHECK TYPE. CHECK VALVES IN VERTICAL PIPING AND IN ALL PUMP DISCHARGES SHALL BE SPRING-CUSHIONED OF THE DISC OR DUAL PLATE TYPE AS MANUFACTURED BY ONE OF THE FOLLOWING:

- a. MILLER VALVE CO.
- b. CPV CO.
- c. SMOLENSKY VALVE CO.
- d. WILLIAMS GAUGE CO. - "WILLIAMS - HAGER"
- e. MISSION "DUO-CHEK"

8.) EXCEPT WHERE SPECIFICALLY STATED TO CONTRARY, ALTERNATE MANUFACTURERS FOR VALVES ARE AS FOLLOWS: CRANE CO., LUNKENHEIMER CO., NIBCO, INC.

9.) THE CONTRACTOR SHALL PROVIDE THE VALVES SPECIFIED, OR THE EQUIVALENT AS PRODUCED BY ONE OF THE ABOVE LISTED MANUFACTURERS.

U.) PIPE SLEEVES AND ESCUTCHEONS

1.) ALL PIPE OPENINGS THROUGH WALLS, CEILINGS, FURRING, PARTITIONS AND SLABS SHALL BE PROVIDED WITH SLEEVES HAVING AN INTERNAL DIAMETER AT LEAST 2" LARGER THAN THE OUTSIDE DIAMETER OF THE PIPE FOR UNINSULATED LINES OR OF THE INSULATION FOR INSULATED SERVICES. SLEEVES SHALL BE LOCATED SO THAT THE PIPE PASSES THROUGH CENTER OF SLEEVE.

2.) SLEEVES SHALL BE INSTALLED THROUGH INTERIOR WALLS AND PARTITIONS FLUSH WITH FINISHED SURFACE; SLEEVES THROUGH OUTSIDE WALLS SHALL PROJECT 1/2" ON EACH SIDE OF THE FINISHED WALL; FLOOR SLEEVES SHALL PROJECT 1" ABOVE FINISHED FLOORS.

3.) INTERIOR WALLS AND FLOORS - THE SPACE BETWEEN OUTSIDE OF PIPE OR INSULATION AND THE INSIDE OF THE SLEEVE OR FRAMED OPENING SHALL BE FILLED WITH FIBROUS GLASS AND FIRE STOPPED WITH 3-M FIRE BARRIER.

4.) ESCUTCHEONS SHALL BE PROVIDED ON BOTH SIDES OF THE PENETRATION THROUGH THE STRUCTURE FOR ALL PIPES EXPOSED TO VIEW PASSING THROUGH FURRING, WALLS, FLOORS, CEILING AND PARTITIONS, WHETHER INSULATED OR NOT. FOR PIPES PASSING THROUGH FLOORS, AND EXTERIOR WALLS, ESCUTCHEONS SHALL FIT OVER THE SLEEVE.

5.) ALL ESCUTCHEONS SHALL BE CHROME PLATED BRASS, SPLIT HINGED TYPE WITH SET SCREWS.

V.) PIPING SPECIALTIES

A.) PROVIDE ALL SPECIAL APPLIANCES REQUIRED FOR THE PROPER OPERATION OF THE PIPING SYSTEMS.

B.) PROVIDE "Y" TYPE STRAINERS WITH FULL SIZE BLOW-OFF-VALVES. SPENCE, MUELLER, McALEAR OR CRANE CAST BRONZE UP TO 2 1/2", SEMI-STEEL 3" AND OVER. MONEL BASKETS WITH NO. 20 MESH.

C.) PROVIDE FLOAT AND THERMOSTATIC TRAPS AS MANUFACTURED BY SPIRAX/SARCO OR APPROVED EQUAL. TRAPS SHALL BE CAST IRON BODY AND BOLTED COVER, STAINLESS STEEL OR BRONZE BELLOW TYPE AIR VENT, STAINLESS STEEL OR COPPER FLOAT, STAINLESS STEEL LEVER AND VALVE ASSEMBLY.

W.) CLEANING - ALL PIPING SYSTEMS

1.) ALL OPEN ENDS OF PIPING, VALVES AND EQUIPMENT SHALL BE PLUGGED EXCEPT WHEN ACTUAL WORK IS BEING PERFORMED, TO MINIMIZE ACCUMULATION OF DIRT AND DEBRIS.

2.) AFTER INSTALLATION IS COMPLETE TEMPORARY SCREENS SHALL BE PLACED AT CONNECTIONS TO ALL EQUIPMENT AND AT AUTOMATIC CONTROL VALVES WHERE PERMANENT STRAINERS ARE NOT PROVIDED.

3.) PRIOR TO THE PERFORMANCE OF TESTS, ALL PIPING THAT IS TO RECEIVE A HYDROSTATIC TEST SHALL BE FLUSHED OUT WITH CLEAN WATER. PIPING THAT IS TO BE AIR OR GAS PRESSURE TESTED SHALL BE BLOWN OUT WITH COMPRESSED AIR. DIRT AND DEBRIS COLLECTED AT SCREENS STRAINERS, AND OTHER POINTS FROM THE SYSTEM, SHALL BE REMOVED BOTH BEFORE AND AFTER TESTING.

4.) THE MANUFACTURER SHALL CLEAN ALL STEEL PIPE AND FITTINGS BEFORE SHIPMENT. THE PIPE AND FITTINGS SHALL BE DIPPED INTO A SOLUTION OF SULPHURIC ACID TO REMOVE THE MILL SCALE AND THEN INTO A SOLUTION TO STOP THE CHEMICAL ACTION ON THE METAL AND REMOVE GREASE.

X.) HANGERS, SUPPORTS, ANCHORS AND GUIDES - GENERAL

1.) SUPPORT, ANCHOR AND GUIDE ALL PIPING AND CONNECTED EQUIPMENT TO PRECLUDE FAILURE OR DEFORMATION. CONSTRUCT AND INSTALL HANGERS, SUPPORTS, ANCHORS, GUIDES AND ACCESSORIES IN CONFORMANCE WITH THE CODE FOR PRESSURE PIPING ANSI B-31.1 AS A MINIMUM REQUIREMENT. WHERE SPECIFICATION REQUIREMENTS ARE MORE STRINGENT THAN THE CODE, THE SPECIFICATION SHALL APPLY. WIRE, TAPE OR METAL BANDS SHALL NOT BE USED.

2.) PIPING SHALL BE SECURELY FASTENED TO THE STRUCTURE WITHOUT OVERSTRESSING ANY PORTION OF THE SUPPORTS OF THE STRUCTURE

ITSELF. SUFFICIENT INTERMEDIATE STEEL SHALL BE PROVIDED TO TRANSFER LOADS TO AREAS WHERE THEY CAN SAFELY BE ACCOMMODATED. PIPE SUPPORTS, ANCHORS AND GUIDES SHALL BE SECURED TO STEEL BY WELDED BRACKETS, BEAM CLAMPS, OR BY FASTENING RODS OVER THE BEAM TOP FLANGE, AND TO CONCRETE BY MEANS OF INSERTS, OR IF GREATER LOAD CARRYING CAPACITY IS REQUIRED, BY MEANS OF STEEL FISHPLATES EMBEDDED IN THE CONCRETE ABOVE THE REINFORCEMENT RODS. ALL HANGERS SHALL BE LOCATED TO PERMIT FREE EXPANSION AND CONTRACTION.

3.) UNLESS OTHERWISE INDICATED, ALL HORIZONTAL PIPING SHALL BE HUNG TIGHT TO CEILING BEAMS AND LOCATED MORE THAN SIX FEET ABOVE THE FLOOR. PIPING LOCATED WITHIN SIX FEET OF THE FLOOR SHALL BE SUPPORTED ON FABRICATED STANDS OR PIERS. WHERE PIPING RUNS ALONG WALLS, SUITABLE WALL TYPE AND GANG-TYPE HANGERS SHALL BE PROVIDED.

4.) PIPING AND TUBING SHALL BE SUPPORTED AT ALL CHANGES IN DIRECTION. MAXIMUM DEFLECTION SHALL BE 1/8". MAXIMUM SPACING BETWEEN SUPPORTS SHALL BE:  
**MATERIAL 1/2" - 1-1/4" 1-1/2" - 2"**

COPPER TUBING 6 FT O.C. 10 FT O.C.

5.) HANGER RODS FOR BOTH SINGLE AND DOUBLE ROD HANGERS SHALL CONFORM TO THE FOLLOWING SCHEDULE OF DIAMETERS:

STEEL PIPE		COPPER TUBING	
PIPE SIZE	HANGER ROD Ø	PIPE SIZE	HANGER ROD Ø
1/2" - 1"	- 3/8"	1/2" - 2"	- 3/8"
1-1/4" - 2"	- 1/2"	2-1/2" - 5"	- 5/8"
2-1/2" - 4"	- 1/2"	5" - 6"	- 3/4"

6.) COPPER PLATED PIPE HANGERS AND SUPPORTS SHALL BE USED FOR VERTICAL AND HORIZONTAL RUNS OF COPPER OR BRASS PIPE AND TUBING WHERE THE HANGER IS IN DIRECT CONTACT WITH THE PIPE, OTHERWISE STEEL HANGERS AND SUPPORTS SHALL BE USED.

7.) PIPE HANGERS AND SUPPORTS COMPLETE WITH RODS, BOLTS, LOCKNUTS, SWIVELS, COUPLINGS, BRACKETS AND ALL OTHER COMPONENTS AND ACCESSORIES SHALL BE PROVIDED.

Y.) HANGER TYPES

1.) IN GENERAL, HANGERS SHALL BE OF CLEVIS TYPE OR ROLL TYPE WITH VERTICAL ADJUSTMENT. WHERE SEVERAL LINES OF PIPING RUN AS A COMMON GROUP, THEY SHALL BE SUPPORTED ON A COMMON HANGER BAR OF GALVANIZED CHANNEL OR BACK TO BACK ANGLE SECTIONS OR "UNISTRUT" TYPE SUPPORTS.

2.) HANGERS SHALL BE AS FOLLOWS:  
 APPLICATION \_\_\_\_\_ CENTRAL IRON FIG. NO.  
 CLEVIS HANGER 10  
 RISER CLAMP - THRU 3" 261  
 RISER CLAMP - OVER 3" 262  
 ROLL HANGER THRU 6" 272  
 ROLL HANGER OVER 6" 171

3.) ALTERNATE MANUFACTURERS: GRINELL, GRABLER, CRANE

M-13 MISCELLANEOUS

A.) THE CONTRACTOR SHALL PROVIDE THE OWNERS WITH CATALOG DATA, OPERATING INSTRUCTIONS, MAINTENANCE INSTRUCTIONS AND RECORD (AS-BUILT) DRAWINGS OF ALL COMPLETED WORK. AS-BUILT DRAWINGS SHALL SHOW EXACT LOCATION OF ALL MECHANICAL SYSTEMS, EQUIPMENT, DUCTWORK, PIPING, ETC.

B.) SUBMIT THREE (3) SETS OF AS BUILT DRAWINGS AND AN ELECTRONIC FILE OF THE AS BUILT DOCUMENTS IN AN AUTO CAD LT 2004 FORMAT TO BUILDING MANAGEMENT.

C.) ALL WORK SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER.

END OF SPECIFICATIONS

CONDENSATE DRAIN SIZING	
EQUIPMENT CAPACITY	MINIMUM CONDENSATE DRAIN PIPE DIAMETER (IN.)
UP TO 20 TONS OF REFRIGERATION	3/4"
OVER 20 TONS OF REFRIGERATION	1"
OVER 40 TONS TO 90 TONS OF REFRIGERATION	1 1/4"
OVER 90 TONS TO 125 TONS OF REFRIGERATION	1 1/2"
OVER 125 TONS TO 250 TONS OF REFRIGERATION	2"
NOTES: FOR SI: 1"=25.4mm, 1 TON OF CAPACITY=3.517 KW	

MECHANICAL PIPE MATERIAL SCHEDULE								
PIPE SYSTEM	SIZE	PIPE			FITTINGS			REMARKS
		MATERIAL	TYPE / WEIGHT	STANDARD	MATERIALS	TYPE / WEIGHT	STANDARD	
CONDENSATE DRAIN	ALL	COPPER	HARD TEMPER TYPE L	ASTM B88	COPPER	WROUGHT COPPER SOLDER JOINT	ANSI 16.18	
NOTES:								



**333 Westchester Avenue  
White Plains, New York 10604  
914-741-1115**



OLA Consulting Engineers

50 Broadway,  
Hawthorne, NY 10532  
914.747.2800

8 West 38th Street,  
Suite 501  
New York, NY 10018  
646.849.4110

olace.com

ISSUE NO.	ISSUE DATE	DESCRIPTION
3	03/04/2024	ISSUED FOR BID
2	11/22/2023	100% CDs - ISSUE FOR CLIENT REVIEW
1	08/22/2023	ISSUED FOR SCHEMATIC DESIGN

**WARNER LIBRARY**

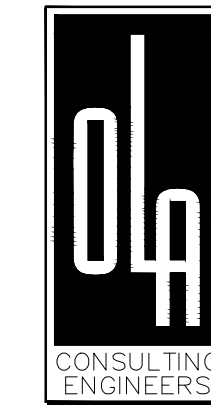
**CHILDREN'S LIBRARY  
ACOUSTICAL TILE CEILING  
AND PIPE INSULATION  
REPLACEMENT**

**MECHANICAL  
SPECIFICATIONS 2 OF 2**

PROJECT NO.: NLAA0034.00 SCALE: AS NOTED

DRAWING NO.:

**M-002**



ISSUE NO.	ISSUE DATE	DESCRIPTION
3	03/04/2024	ISSUED FOR BID
2	11/22/2023	100% CDs - ISSUE FOR CLIENT REVIEW
1	08/22/2023	ISSUED FOR SCHEMATIC DESIGN

## WARNER LIBRARY

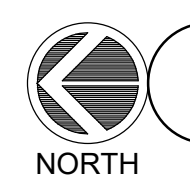
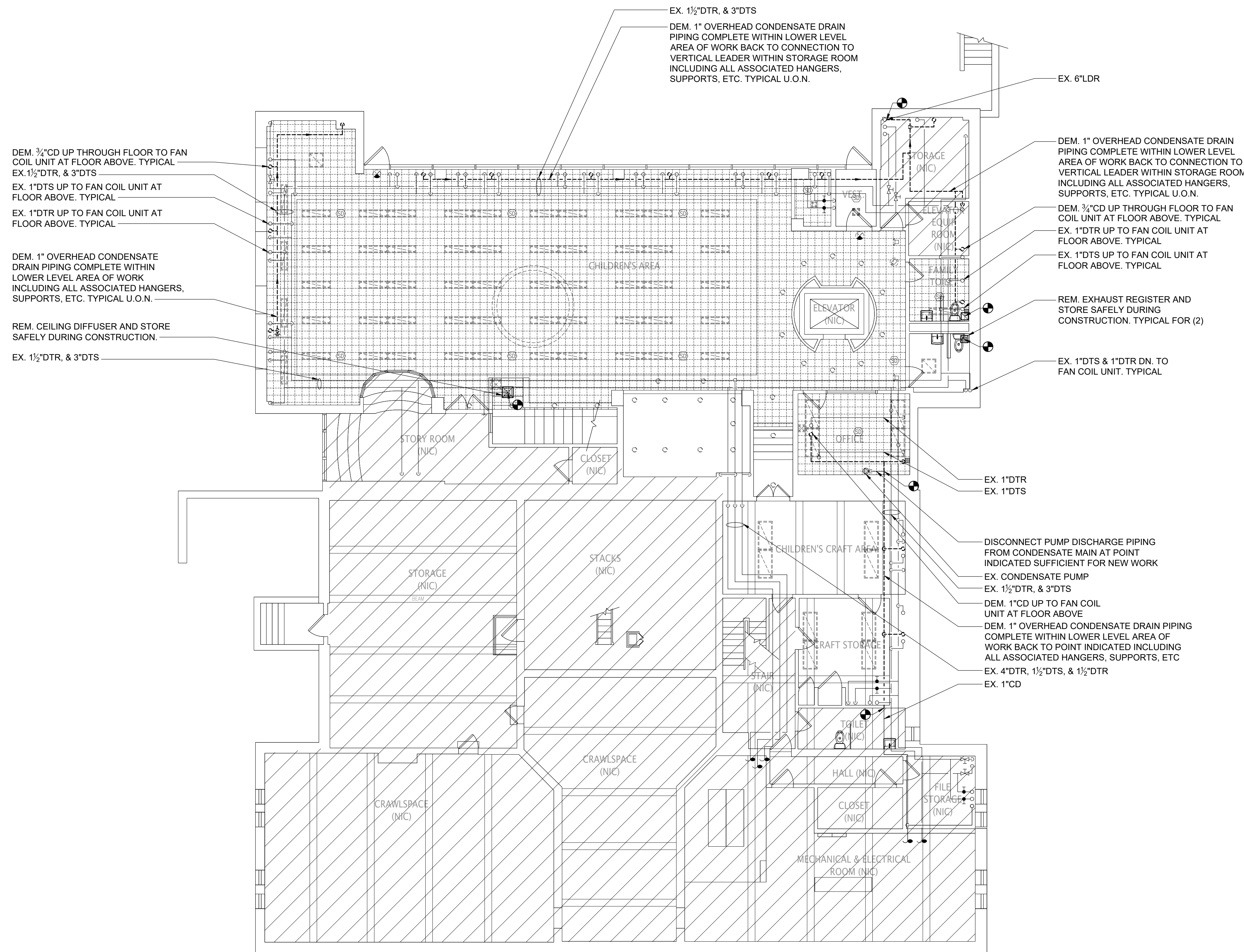
### CHILDREN'S LIBRARY ACOUSTICAL TILE CEILING AND PIPE INSULATION REPLACEMENT

### MECHANICAL LOWER LEVEL DEMOLITION PLAN

PROJECT NO.: NLAA0034.00 SCALE: AS NOTED

DRAWING NO.:

M-101



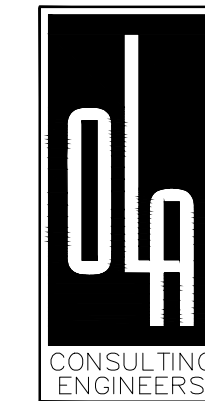
1

### MECHANICAL LOWER LEVEL DEMOLITION PLAN

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

NOTES:

- DEMOLISH DUAL TEMPERATURE SUPPLY AND RETURN INSULATION COMPLETE THROUGHOUT LOWER LEVEL AREA OF WORK.
- ALL CONDENSATE DRAIN / PUMP DISCHARGE PIPING FROM FAN COIL UNITS AT LOWER LEVEL SHALL BE DISCONNECTED FROM THE OVERHEAD CONDENSATE MAIN AND REMAIN IN PLACE SUFFICIENT FOR NEW WORK WHETHER INDICATED OR NOT.



ISSUE NO.	ISSUE DATE	DESCRIPTION
3	03/04/2024	ISSUED FOR BID
2	11/22/2023	100% CDs - ISSUE FOR CLIENT REVIEW
1	08/22/2023	ISSUED FOR SCHEMATIC DESIGN

## WARNER LIBRARY

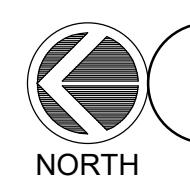
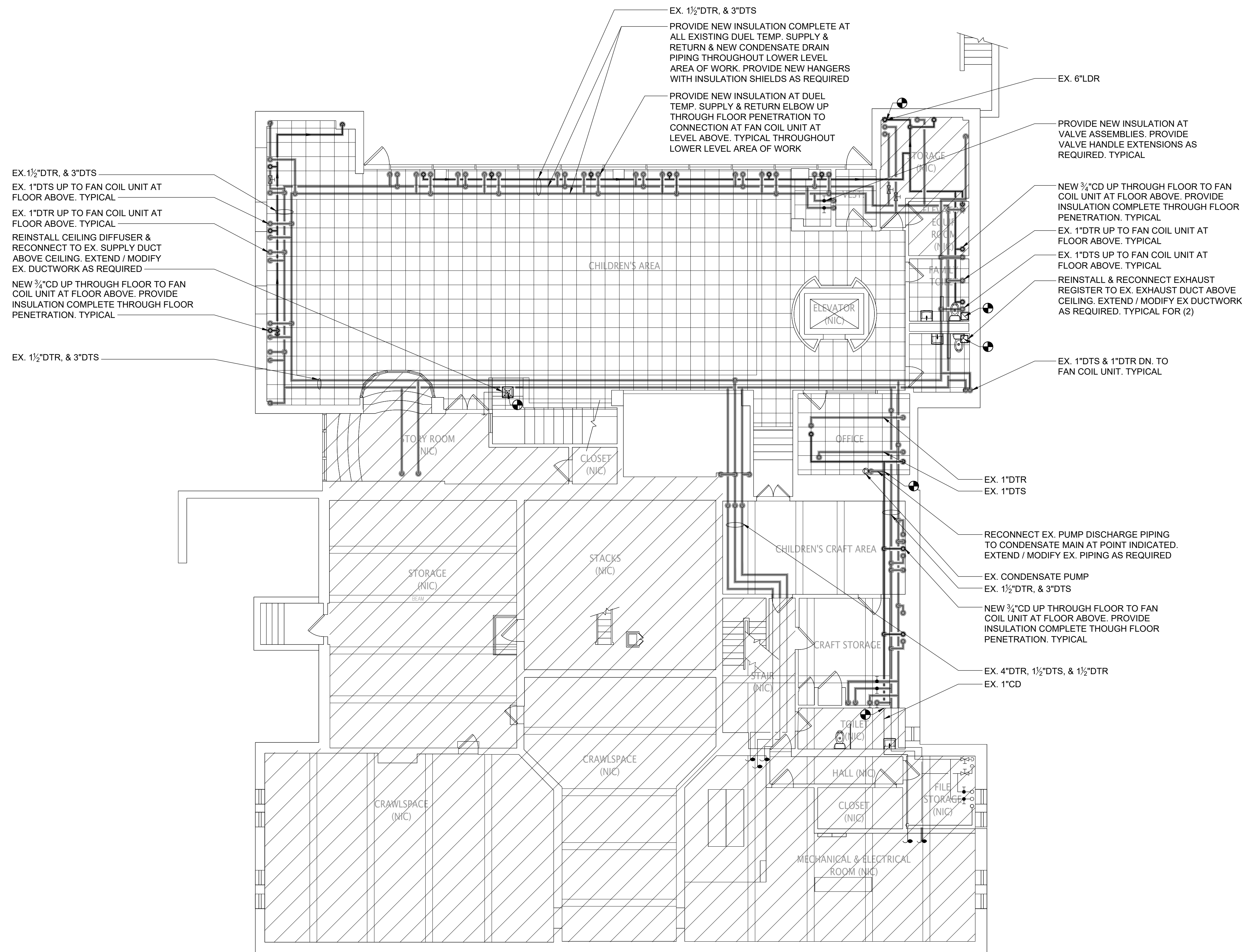
### CHILDREN'S LIBRARY ACOUSTICAL TILE CEILING AND PIPE INSULATION REPLACEMENT

### MECHANICAL LOWER LEVEL NEW WORK PLAN

PROJECT NO.: NLAA0034.00 SCALE: AS NOTED

DRAWING NO.:

M-201



1

### MECHANICAL LOWER LEVEL NEW WORK PLAN

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

NOTES:

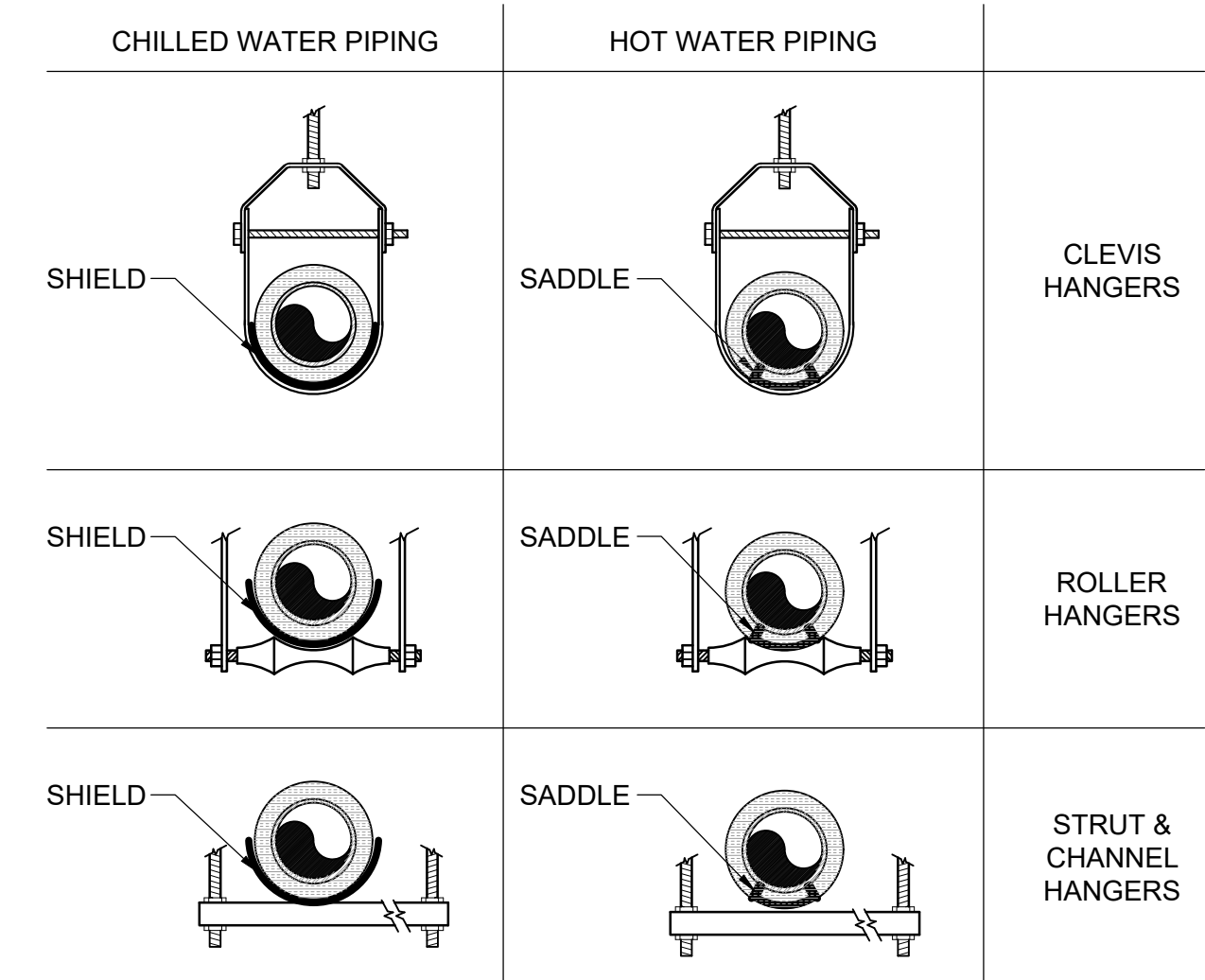
1. NEW INSULATION AT DUAL TEMPERATURE SUPPLY & RETURN PIPING AND CONDENSATE DRAIN PIPING SHALL BE CONTINUOUS UP THROUGH ALL FLOOR PENETRATIONS. FLOOR PENETRATIONS SHALL BE PROPERLY SEALED TO BE WATERTIGHT.
2. ALL CONDENSATE DRAIN / PUMP DISCHARGE PIPING FROM FAN COIL UNITS AT LOWER LEVEL SHALL BE RECONNECTED EX. TO NEW OVERHEAD CONDENSATE MAIN WHETHER INDICATED OR NOT. EXTEND / MODIFY EX. PIPING AS REQUIRED
3. NEW CONDENSATE DRAIN PIPING SHALL MAKE USE OF EXISTING FLOOR PENETRATIONS THROUGHOUT FOR INSTALLATION.



**TABLE C403.2.10**  
**MINIMUM PIPE INSULATION THICKNESS (IN INCHES)<sup>A, C</sup>**

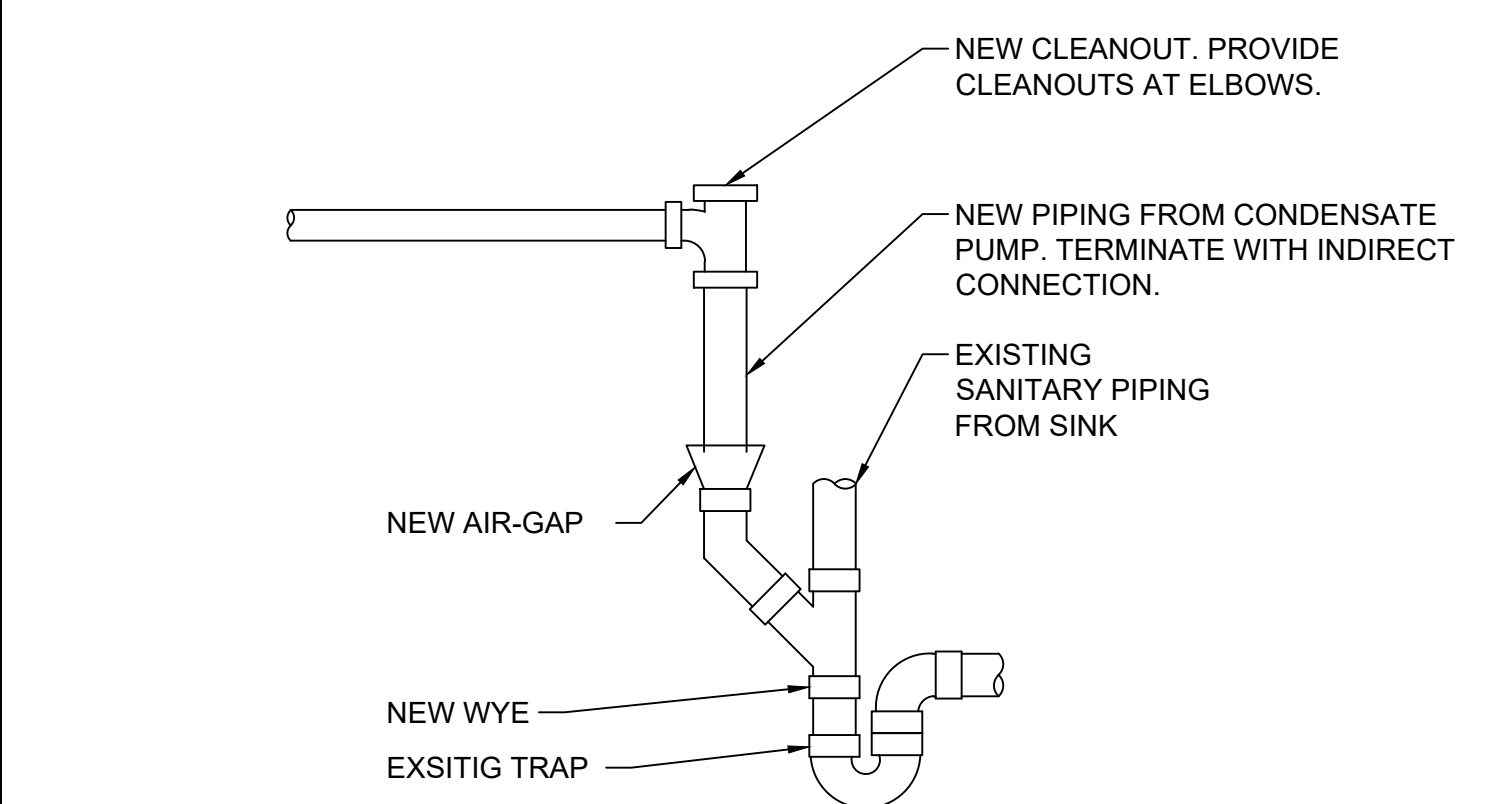
FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)				
	CONDUCTIVITY BTU*IN./(H*FT <sup>2</sup> *°F) <sup>B</sup>	MEAN RATING TEMPERATURE, °F	< 1	1 TO < 1½	1½ TO < 4	4 TO < 8	≥ 8
> 350	0.32 - 0.34	250	4.5	5.0	5.0	5.0	5.0
251 - 350	0.29 - 0.32	200	3.0	4.0	4.5	4.5	4.5
201 - 250	0.27 - 0.30	150	2.5	2.5	2.5	3.0	3.0
141 - 200	0.25 - 0.29	125	1.5	1.5	2.0	2.0	2.0
105 - 140	0.21 - 0.28	100	1.0	1.0	1.5	1.5	1.5
40 - 60	0.21 - 0.27	75	0.5	0.5	1.0	1.0	1.0
< 40	0.20 - 0.26	50	0.5	1.0	1.0	1.0	1.5

**NOTES:**  
FOR SI: 1 INCH = 25.4 MM, °C = [(°F)-32]/1.8  
a. FOR PIPING SMALLER THAN 1½ INCHES AND LOCATED IN PARTITIONS WITHIN CONDITIONED SPACES, REDUCTION OF THESE THICKNESSES BY 1 INCH SHALL BE PERMITTED (BEFORE THICKNESS ADJUSTMENT REQUIRED IN FOOTNOTE b) BUT NOT TO A THICKNESS LESS THAN 1 INCH.  
b. FOR INSULATION OUTSIDE THE STATED CONDUCTIVITY RANGE, THE MINIMUM THICKNESS (T) SHALL BE DETERMINED AS FOLLOWS:  
 $T = r \{ (1 + t/r) / k - 1 \}$   
WHERE:  
T = MINIMUM INSULATION THICKNESS,  
r = ACTUAL OUTSIDE RADIUS OF PIPE,  
t = INSULATION THICKNESS LISTED IN THE TABLE FOR APPLICABLE FLUID TEMPERATURE AND PIPE SIZE,  
k = CONDUCTIVITY OF ALTERNATE MATERIAL AT MEAN RATING TEMPERATURE INDICATED FOR THE APPLICABLE FLUID TEMPERATURE (BTU \* IN/H \* FT<sup>2</sup> \* °F)  
k = THE UPPER VALUE OF THE CONDUCTIVITY RANGE LISTED IN THE TABLE FOR THE APPLICABLE FLUID TEMPERATURE.  
c. FOR DIRECT-BURIED HEATING AND HOT WATER SYSTEM PIPING, REDUCTION OF THESE THICKNESSES BY 1½ INCHES (38 MM) SHALL BE PERMITTED (BEFORE THICKNESS ADJUSTMENT REQUIRED IN FOOTNOTE b) BUT NOT TO THICKNESSES LESS THAN 1 INCH (25 MM).

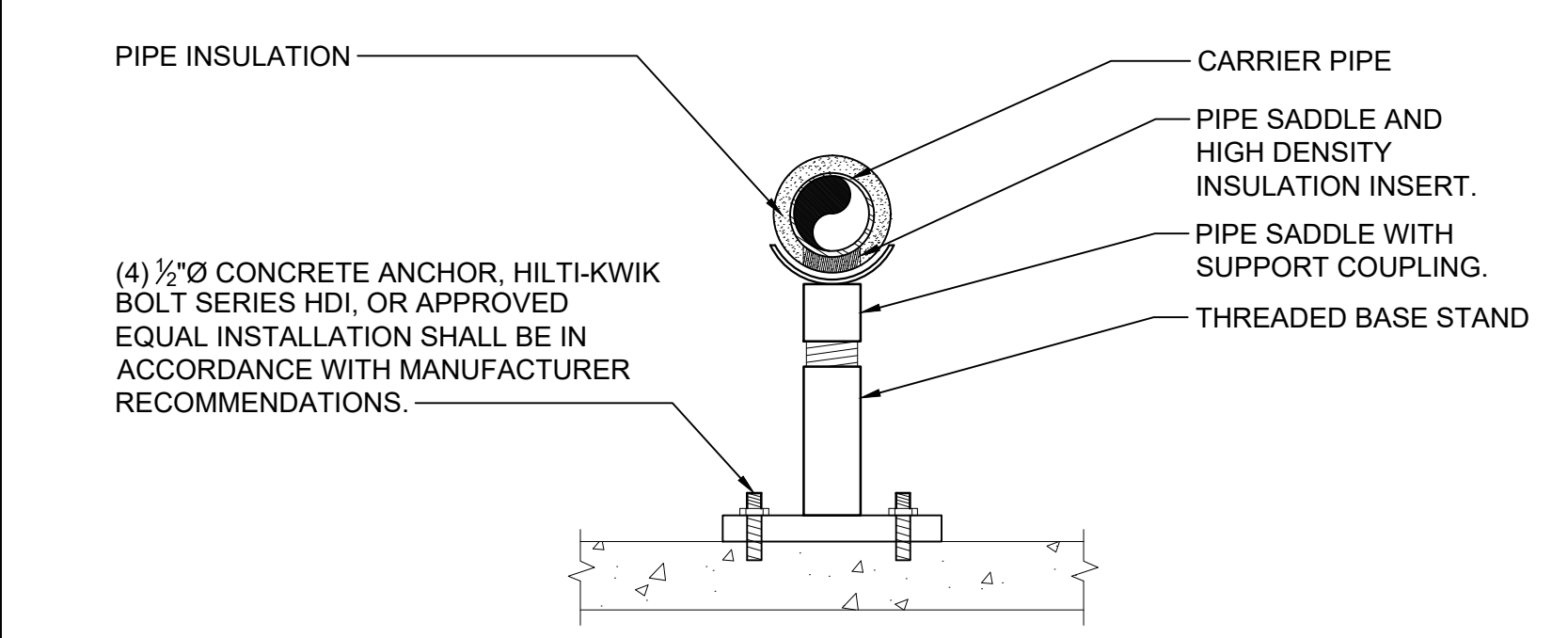


- NOTES:**
- INSULATION ON ALL COLD SURFACES SHALL BE APPLIED WITH A CONTINUOUS, UNBROKEN VAPOR SEAL. HANGERS, SUPPORTS, ANCHORS, ETC., THAT ARE SECURED DIRECTLY TO COLD SURFACES SHALL BE ADEQUATELY INSULATED AND VAPOR SEALED TO PREVENT CONDENSATION.
  - GALVANIZED METAL SHIELDS SHALL BE APPLIED BETWEEN HANGERS OR SUPPORTS AND THE PIPE INSULATION AS SHOWN ABOVE. SHIELDS SHALL BE FORMED TO FIT THE INSULATION AND SHALL EXTEND UP TO THE CENTERLINE OF THE PIPE.
  - RIGID INSULATION INSERTS SHALL BE INSTALLED ON PIPE SIZES 1½" (38 MM) OR LARGER AS SHOWN ABOVE. INSERTS SHALL BE OF EQUAL THICKNESS TO THE ADJOINING INSULATION AND SHALL BE PROVIDED WITH VAPOR RETARDER SEALS.

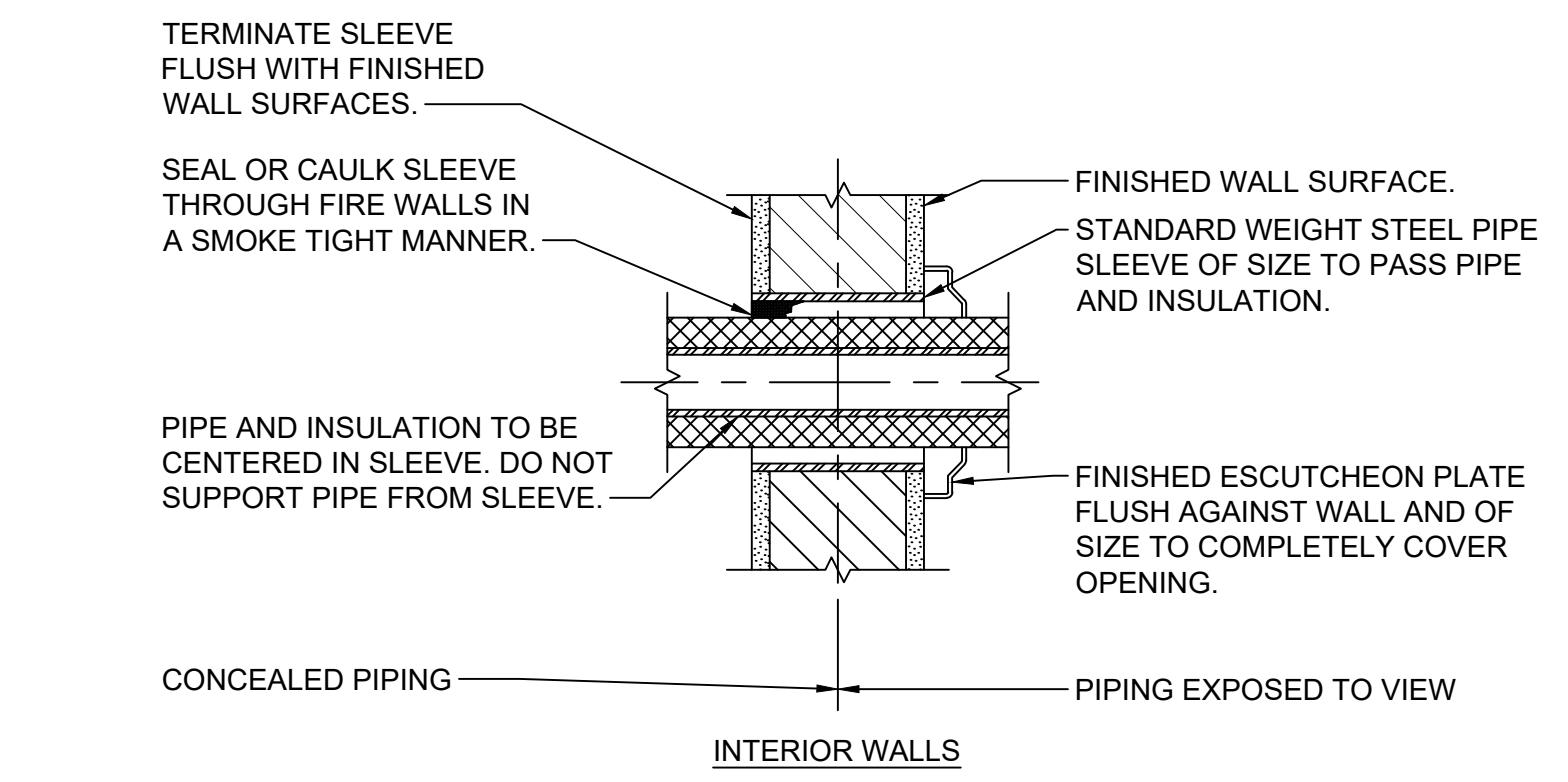
**5 PIPE INSULATION SADDLE/SHIELD SCHEDULE**  
SCALE: NONE



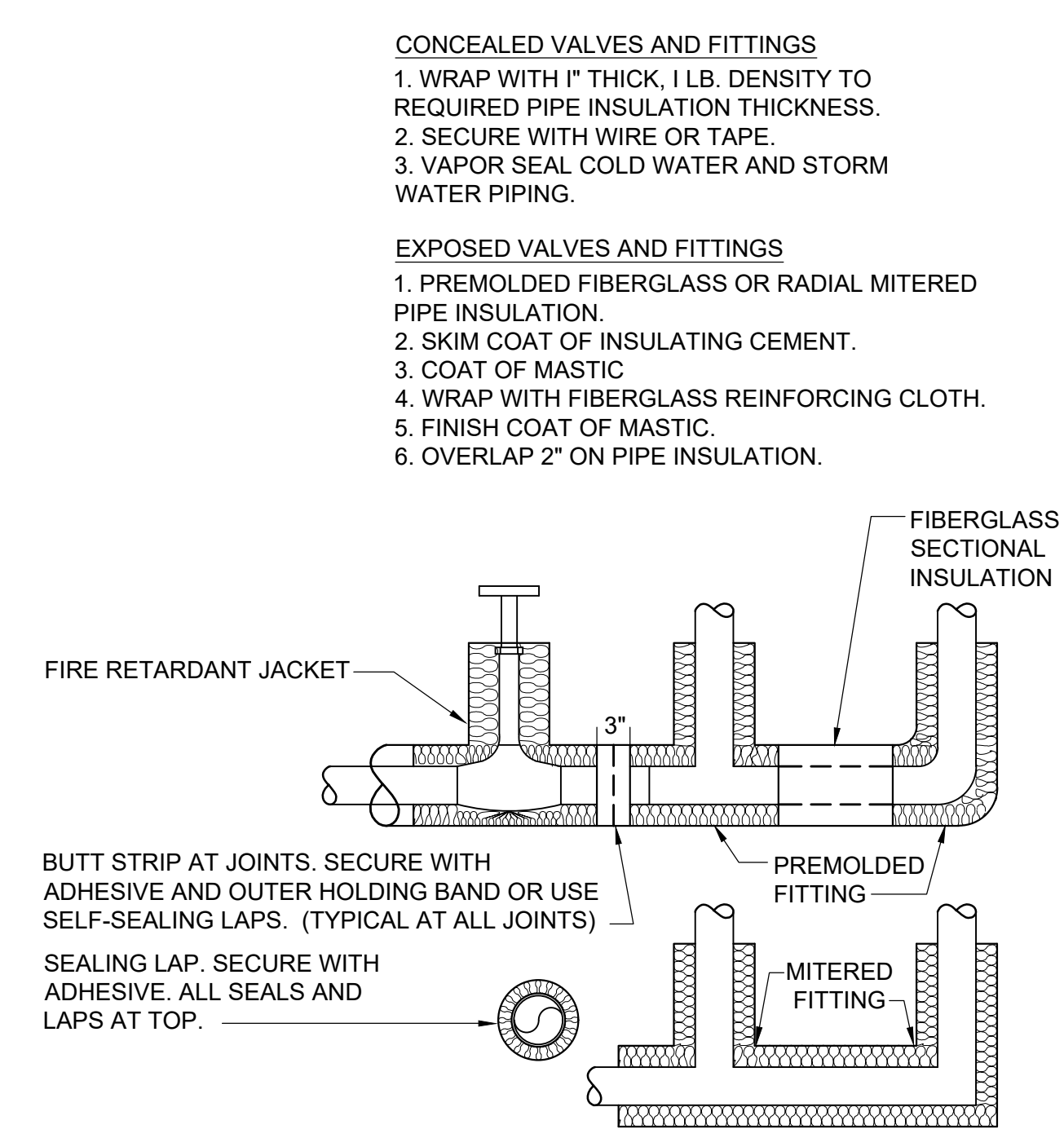
**3 CONDENSATE DRAIN CONNECTION DETAIL**  
SCALE: NONE



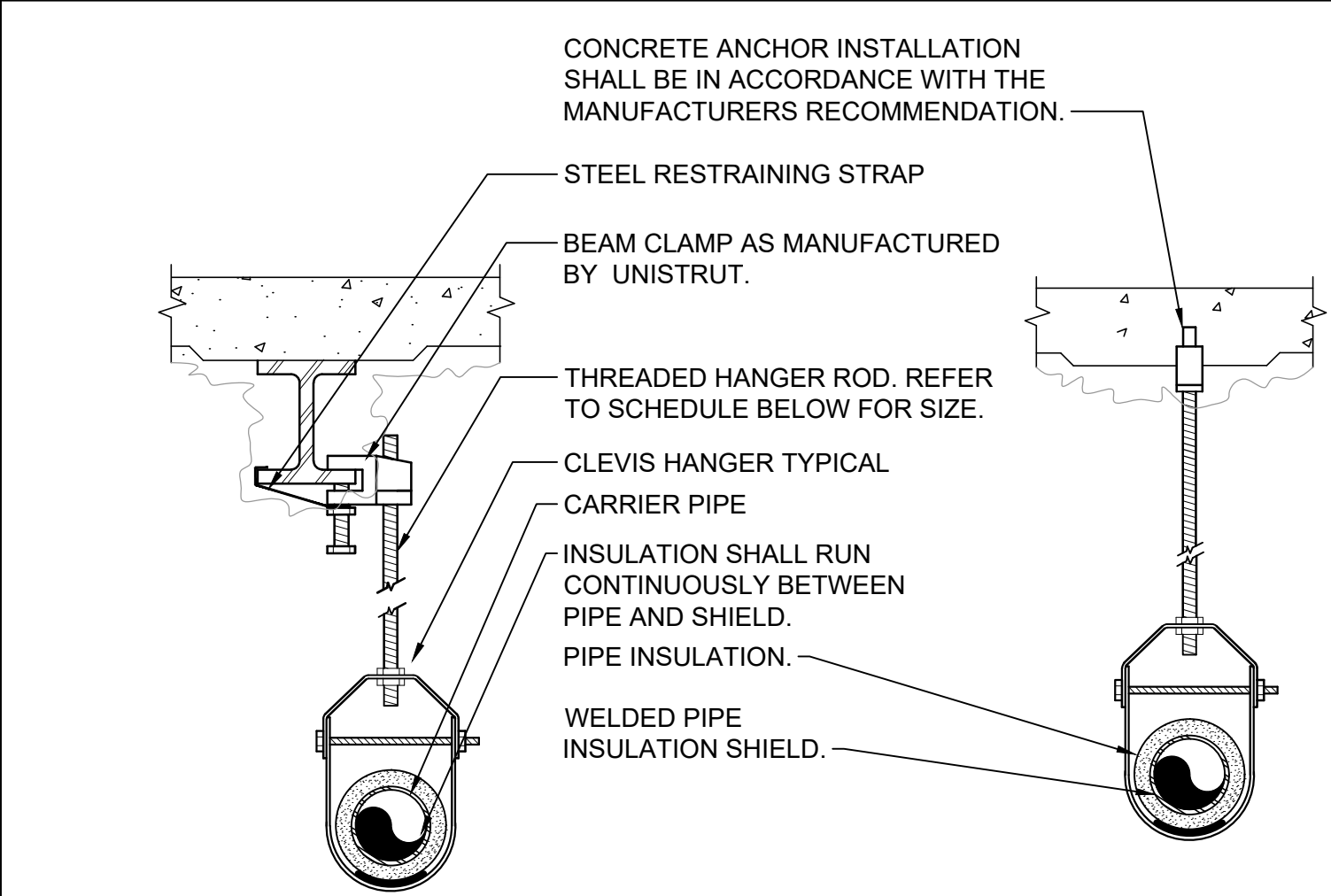
**2 FLOOR PIPE SUPPORT DETAIL**  
SCALE: NONE



**6 PIPE WALL SLEEVE DETAIL FOR INTERIOR WALLS**  
SCALE: NONE



**4 PIPE INSULATION DETAIL**  
SCALE: NONE



**PIPE HANGER SCHEDULE**

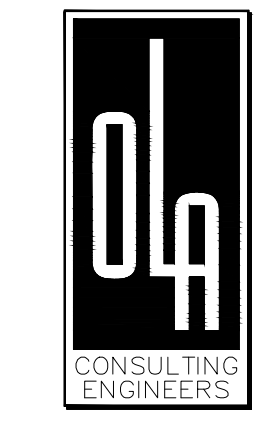
PIPE DIA.	3/4"-2"	2 1/2"-3"	4"-5"	6"	8"-12"
HANGER DIA.	3/8"	1/2"	5/8"	3/4"	7/8"

- NOTES:**
- CLEVIS HANGERS WITH WELDED INSULATION SHIELDS SIMILAR TO RAUCH FIG. 100SH ON ALL PIPES LARGER THAN 1".
  - FOR PIPES 1" OR SMALLER, A BAND HANGER WITH INSULATION SHIELD MAY BE USED SIMILAR TO RAUCH FIG. NO. 1ASH.
  - FOR NON-INSULATED PIPE, INSULATION SHIELDS MAY BE OMITTED.
  - ALL PIPE HANGERS SHALL BE GALVANIZED STEEL OR FACTORY PAINTED BLACK WITH ENAMEL.
  - FOR NON FERROUS PIPING WITHOUT INSULATION, ALL HANGERS SHALL BE COPPER PLATED OR FURNISHED WITH A DI-ELECTRIC BETWEEN PIPE AND HANGERS.
  - WHERE EXISTING BUILDING STRUCTURAL COMPONENTS HAVE FIREPROOF MATERIAL, ANY AREA THAT IS DISTURBED OR DAMAGED AS A RESULT OF HANGER INSTALLATION SHALL BE PATCHED WITH UL AND FM APPROVED FIREPROOFING TO MATCH EXISTING.
  - ALL ANCHORS AND INSERTS SHALL HAVE NEW YORK CITY BOARD OF STANDARD AND APPEALS, (BSA) APPROVAL.

**1 PIPE HANGER DETAIL**  
SCALE: NONE

**Lothrop**  
Associates Architects D.P.C.

333 Westchester Avenue  
White Plains, New York 10604  
914-741-1115



OLA Consulting Engineers  
50 Broadway,  
Hawthorne, NY 10532  
914.747.2800  
8 West 38th Street,  
Suite 501  
New York, NY 10018  
646.849.4110  
olace.com

ISSUE NO.	ISSUE DATE	DESCRIPTION
3	03/04/2024	ISSUED FOR BID
2	11/22/2023	100% CDs - ISSUE FOR CLIENT REVIEW
1	08/22/2023	ISSUED FOR SCHEMATIC DESIGN

**WARNER LIBRARY**

**CHILDREN'S LIBRARY**  
**ACOUSTICAL TILE CEILING**  
**AND PIPE INSULATION**  
**REPLACEMENT**

**MECHANICAL DETAILS**

PROJECT NO.: NLA0034.00 SCALE: AS NOTED

DRAWING NO.:  
**M-701**

SYMBOLS AND ABBREVIATIONS		
SYMBOL	ABBREVIATION	DESCRIPTION
	-	CONDUIT AND WIRING
	-	CONDUIT & WIRING TO BE REMOVED UON
	-	HOMERUN TO PANEL, ARROWS INDICATE # 1P
	-	MULTI-POLE HOMERUN
	-	ELECTRICAL EQUIPMENT AS INDICATED
	-	ELECTRICAL EQUIPMENT TO BE REMOVED UON
	-	BATTERY PACK EMERGENCY LIGHT FIXTURE
	-	EXIT LIGHT, FACES-SHADED, CHEVRON-ARROW
	-	SINGLE POLE SWITCH (x - INDICATES FIXTURE BEING CONTROLLED) (DIM - INDICATES DIMMER)
	-	THREE WAY SWITCH (x - INDICATES FIXTURE BEING CONTROLLED)
	-	WALL MOUNTED OCCUPANCY SENSOR (V - INDICATES VACANCY SENSOR)
	-	CEILING MOUNTED OCCUPANCY SENSOR (V - INDICATES VACANCY SENSOR)
	-	SMOKE DETECTOR
	FACP	FIRE ALARM CONTROL PANEL
	A	AMPERE(S)
	AF	AMPERAGE OF FUSE
	AWG	AMERICAN WIRE GAUGE
	BLDG	BUILDING
	C	CONDUIT
	CD	CANDELA
	CKT	CIRCUIT
	CLG	CEILING
	COL	COLUMN
	CU	COPPER
	DEM.	DEMOLISH AND REMOVE
	DISC	DISCONNECT
	DWG	DRAWING
	ELEV	ELEVATOR
	EMT	ELECTRICAL METALLIC TUBING
	EM	EMERGENCY
	EX.	EXISTING TO REMAIN
	F	FLOOR
	NIC	NOT IN CONTRACT
	NTS	NOT TO SCALE
	P	POLE
	PNL	PANEL
	REL.	REMOVE AND RELOCATE
	TYP	TYPICAL
	UON	UNLESS OTHERWISE NOTED
	VIF	VERIFY IN FIELD
	V	VOLT(S)

NOTES:  
1.) ALL SYMBOLS AND ABBREVIATIONS MAY NOT BE APPLICABLE FOR THIS PROJECT.  
2.) SEE LIGHTING FIXTURE SCHEDULE FOR LIGHT FIXTURE SYMBOLS.

### GENERAL NOTES

- ALL WORK SHOWN IS NEW UNLESS OTHERWISE NOTED (UON) EXISTING TO REMAIN (EX.).
- THE DRAWINGS ARE TO BE CONSIDERED SCHEMATIC ONLY AND DO NOT NECESSARILY SHOW THE EXACT LOCATIONS AND DETAILS OF THE WORK TO BE INSTALLED.
- THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL

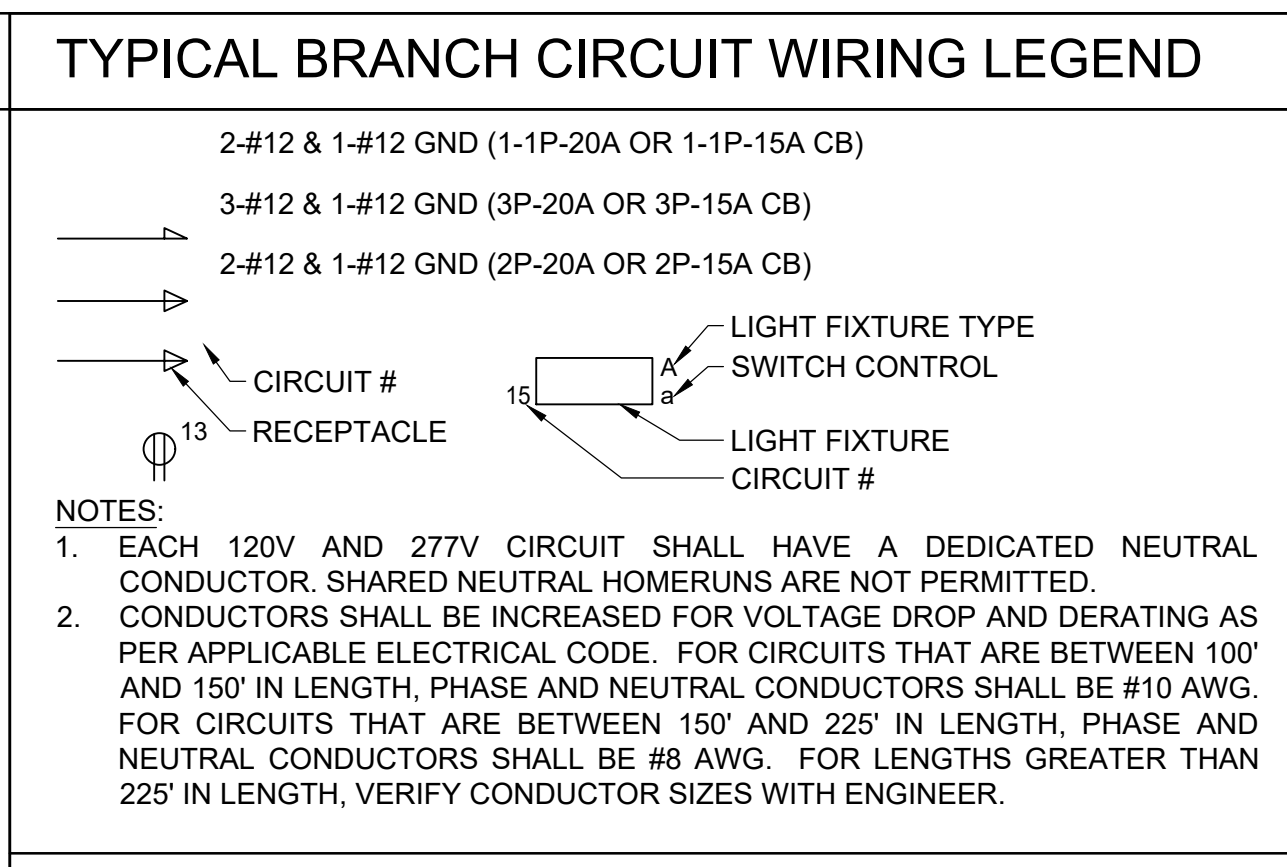
### GENERAL NOTES CONTINUED

NECESSARY PERMITS AND PAYING ALL FEES ASSOCIATED WITH THIS WORK INCLUDING FILING WITH THE UTILITY COMPANY (AS REQUIRED), AND WITH LOCAL AUTHORITY HAVING JURISDICTION.

- ALL CONDUCTORS SHALL BE COPPER UON "ON DRAWINGS".
- ELECTRONIC FILES OF THE MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION DRAWINGS ARE AVAILABLE TO THE CONTRACTOR. THE ENGINEER MAY GRANT THE CONTRACTOR A LIMITED LICENSE TO MAKE A DERIVATIVE WORK OF THE DATABASE FOR THE PURPOSE OF SHOP DRAWINGS, SUBMITTALS AND AS-BUILT DRAWINGS. UPON REQUEST, THE ENGINEER SHALL PROVIDE A RELEASE FORM THAT MUST BE SIGNED AND RETURNED BY THE CONTRACTOR PRIOR TO RELEASE OF THE ELECTRONIC FILES.
- CIRCUIT NUMBERS ARE FOR INFORMATION PURPOSES ONLY. ACTUAL CIRCUIT NUMBERS SHALL BE DETERMINED IN THE FIELD.
- CORE DRILLING OR TRENCHING THROUGH AN EXISTING FLOOR SLAB, WHEN REQUIRED, SHALL BE COORDINATED WITH THE OWNER. FLOOR SLABS SHALL BE RADAR SCANNED PRIOR TO CORE DRILLING OR TRENCHING. ALL WORK, INCLUDING CORE DRILLING, RADAR SCAN, INSTALLATION OF FIRE STOPPING, & CONDUIT/CABLE INSTALLATION SHALL BE PERFORMED DURING NON-BUSINESS HOURS AND INCLUDED IN BASE BID. USE EXTREME CAUTION DURING ANY CUTTING OPERATION TO AVOID DAMAGE TO EXISTING EQUIPMENT/SYSTEMS. ANY ITEMS DAMAGED AS A RESULT OF CORE DRILLING SHALL BE REPAIRED AT NO COST TO THE CLIENT. ALL CORES SHALL BE FIRE SEALED.
- INSTALL CONDUIT EXPANSION FITTINGS AT ALL LOCATIONS WHERE CONDUITS CROSS BUILDING OR STRUCTURE EXPANSION JOINTS.
- CEILING MOUNTED RECEPTACLES SHALL BE MOUNTED FLUSH TO CEILING.

### DEFINITION OF TERMS

- WHEREVER IN THE CONTRACT DOCUMENTS THE WORD "CLIENT" IS USED, IT MUST BE UNDERSTOOD THAT "WARNER LIBRARY" IS INTENDED.
- WHEREVER IN THE CONTRACT DOCUMENTS THE WORD "ARCHITECT" IS USED, IT MUST BE UNDERSTOOD THAT "LOTHROP ASSOCIATES ARCHITECTS DPC" IS INTENDED.
- WHEREVER IN THE CONTRACT DOCUMENTS THE WORD "ENGINEER" IS USED, IT MUST BE UNDERSTOOD THAT "OLA CONSULTING ENGINEERS" IS INTENDED.
- WHEREVER IN THE CONTRACT DOCUMENTS THE WORDS "FIRE ALARM SYSTEM" OR "FIRE ALARM VENDOR" ARE USED, IT MUST BE UNDERSTOOD THAT "GLOBAL SYSTEM INTEGRATORS" IS INTENDED.
- "WORK" MUST BE DEEMED TO CONSIST OF ALL LABOR AND OPERATIONS, TRANSPORTATION, HOISTING, MATERIALS, TOOLS, EQUIPMENT, SERVICES, INSPECTIONS, INVESTIGATIONS, COORDINATION AND SUPERVISION REQUIRED AND / OR REASONABLY NECESSARY TO PRODUCE THE CONSTRUCTION REQUIRED BY THE CONTRACT DOCUMENTS.
- "FURNISH" MEANS THE DESIGN, FABRICATION, PURCHASE AND DELIVERY TO THE JOB SITE.
- "INSTALL OR INSTALLATION" MEANS THE ACT OF PHYSICALLY PLACING, APPLYING, SETTING, ERECTING, ANCHORING, SECURING, ETC., CONSTRUCTION MATERIALS, EQUIPMENT, FURNISHINGS, APPLIANCES, AND SIMILAR ITEMS SPECIFIED AND FURNISHED AT THE JOB SITE. INSTALLATION OF SPECIFIED ITEMS MUST BE COMPLETE IN ALL RESPECTS.
- "PROVIDE" MEANS TO FURNISH AND INSTALL CONSTRUCTION MATERIAL, EQUIPMENT, ETC. AS DEFINED ABOVE.
- THE FOLLOWING ARE DEFINITIONS OF SHOP DRAWING STAMP ACTIONS:  
A. "NO EXCEPTIONS TAKEN" MEANS THAT THE SHOP DRAWING IS CORRECT AS TO PERFORMANCE, CAPACITY, ETC. AND SUBSTANTIAL CONFORMANCE TO THE CONTRACT DRAWINGS AND SPECIFICATIONS. FABRICATION AND/OR PURCHASE MAY COMMENCE.  
B. "MAKE CORRECTIONS NOTED" MEANS THAT THE SHOP DRAWING IS CORRECT AS TO PERFORMANCE, CAPACITY, ETC. AND SUBSTANTIAL CONFORMANCE TO THE CONTRACT DRAWINGS AND/OR SPECIFICATIONS, SUBJECT TO AND IN COMPLIANCE WITH THE ANNOTATIONS AND/OR CORRECTIONS INDICATED ON THE SHOP DRAWING. FABRICATION AND/OR PURCHASE MAY COMMENCE.  
C. "AMEND AND RESUBMIT" MEANS THAT THE COMMENTS AND/OR CORRECTION ARE SO EXTENSIVE AND IMPORTANT THAT THE REVIEWER WANTS TO SEE HOW THE COMMENTS AND/OR CORRECTIONS ARE RESOLVED PRIOR TO RELEASE FOR FABRICATION AND/OR PURCHASE. FABRICATIONS AND/OR PURCHASE MAY NOT COMMENCE.  
D. "REJECTED" MEANS THAT THE SHOP DRAWING DOES NOT COMPLY OR CONFORM TO THE CONTRACT DRAWINGS AND/OR SPECIFICATIONS. FABRICATION AND/OR PURCHASE MAY NOT COMMENCE.



### DEMOLITION NOTES

- ALL EQUIPMENT SHALL BE DISCONNECTED AND REMOVED BACK TO POWER SOURCE ORIGINATION UNLESS OTHERWISE NOTED (UON) EXISTING TO REMAIN (EX.).
- CONTRACTOR SHALL VERIFY EXTENT OF DEMOLITION WORK IN THE FIELD PRIOR TO BID AND SHALL INCLUDE ALL LABOR AND MATERIALS IN BASE BID INCLUDING ALL TEMPORARY CONNECTIONS, CONDUIT AND WIRE IN ORDER TO ACCOMMODATE CONSTRUCTION AND PROVIDE CONTINUOUS SERVICE TO DEVICES AND SYSTEMS TO REMAIN, TEMPORARY AND PERMANENTLY. WORK REQUIRING THE SHUT-DOWN OF THE BUILDING POWER SHALL BE PERFORMED DURING OVERTIME AND SHALL BE INCLUDED IN BASE BID.
- CIRCUIT BREAKER, CONDUIT AND CONDUCTOR SIZES INDICATED SHALL BE FIELD VERIFIED PRIOR TO BID.
- ALL EXISTING ELECTRICAL EQUIPMENT NO LONGER IN USE, SUCH AS DISCONNECT SWITCHES, MOTOR CONTROLLERS, MOTOR STARTER PANELS, ETC. SHALL BE REMOVED UON.
- ALL DISCONNECTED & REMOVED EXISTING ELECTRICAL ITEMS THAT ARE NOT BEING REUSED SHALL BE RETURNED TO THE OWNER OR DISPOSED OF AS DIRECTED.
- THE CONTRACTOR SHALL INCLUDE IN THE BASE BID FOR ALL MATERIAL & LABOR REQUIRED FOR THE EXTENSIONS, REROUTING & RELOCATION OF EXISTING SYSTEM COMPONENTS, EQUIPMENT, WIRING, CONDUITS & CABLING SO AS TO MAINTAIN OPERATION OF ALL SYSTEMS THROUGHOUT THE BUILDING DURING DEMOLITION & CONSTRUCTION PHASES.

### SPECIFICATIONS

- E-1. SCOPE OF WORK
- A. ALL WORK SHOWN ON THE DRAWINGS IS NEW UNLESS OTHERWISE NOTED EXISTING TO REMAIN (EX.). THIS CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, APPLIANCES, SERVICES, HOISTING, SCAFFOLDING, SUPERVISION AND OVERHEAD FOR THE FURNISHING AND INSTALLING OF ALL THE ELECTRICAL AND RELATED WORK COMPLETE, IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
- MODIFICATION OF EXISTING PANELBOARDS, BALANCING AND UPDATED TYPED DIRECTORIES.
  - REMOVAL, DISPOSAL, RELOCATION AND/OR INSTALLATION OF FIRE ALARM SYSTEM COMPONENTS, ELECTRICAL LIGHTING FIXTURES, SWITCHES, RECEPTACLES, WIRING, PANELBOARDS, TRANSFORMERS, DISCONNECT SWITCHES AND ASSOCIATED CONDUIT, ALARM WIRING AND ANY OTHER ELECTRICAL EQUIPMENT.
  - LIGHTING FIXTURES, COMPLETE WITH NECESSARY HANGER ASSEMBLIES, STEMS AND SWIVELS, COUPLINGS, LAMP AUXILIARIES, LAMPS, MISCELLANEOUS MOUNTING DEVICES AND HARDWARE TO MEET THE BOCA SEISMIC REQUIREMENTS.
  - JUNCTION AND OUTLET BOXES COMPLETE WITH COVERS, SWITCHES, RECEPTACLES AND ANY OTHER WIRING DEVICES AND SPECIAL COVERPLATES.
  - CONDUIT, CONDUIT FITTINGS, OUTLET BOXES, JUNCTION AND PULL BOXES, TROUGHS, WIREWAYS AND ALL APPURTENANCES NECESSARY FOR ELECTRICAL RACEWAY SYSTEMS, INCLUDING NECESSARY SUPPORTS AND FASTENERS.
  - INSULATED CONDUCTORS COMPLETE WITH SPLICES AND CONNECTIONS, INCLUDING CONNECTORS AND CONNECTION LUGS.
  - GROUNDING AND BONDING SYSTEM.
  - HOLES AND SLEEVES FOR CONDUITS PASSING THROUGH WALLS, FLOORS AND PARTITIONS.
  - TAGGING AND IDENTIFYING ALL EQUIPMENT AND DEVICES WITH NAMEPLATES.
  - FIELD TESTS OF ALL EQUIPMENT AND ITS OPERATIONS AS SPECIFIED.
  - CUTTING AND PATCHING AS REQUIRED FOR INSTALLATION OF ELECTRICAL WORK.
  - TEMPORARY POWER AND LIGHT AS REQUIRED.
  - FIRE ALARM SYSTEM MODIFICATION AS INDICATED.
  - AS-BUILT DRAWINGS.
- E-2 MATERIAL AND WORKMANSHIP
- A. GENERAL:
- THE WORK PERFORMED SHALL BE "FIRST-CLASS WORK" IN EVERY RESPECT. THE WORK SHALL BE PERFORMED BY A LICENSED ELECTRICIANS SKILLED IN THEIR RESPECTIVE TRADES, WHO SHALL AT ALL TIMES BE UNDER THE SUPERVISION OF COMPETENT PERSONS.

- ### SPECIFICATIONS CONTINUED
- WORK THAT IS SLIPSHOD, POORLY LAID OUT, NOT PERFECTLY ALIGNED, OR THAT IS NOT CONSISTENT WITH THE REQUIREMENTS GENERALLY ACCEPTED IN THE TRADE FOR "FIRST-CLASS WORK" SHALL NOT BE ACCEPTABLE.
  - IN ADDITION TO THE MATERIALS SPECIFIED ELSEWHERE, ALL OTHER MISCELLANEOUS ITEMS NECESSARY FOR THE COMPLETION OF THE WORK SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR TO THE EXTENT THAT ALL SYSTEMS BE COMPLETE AND OPERATIVE.
  - ALL MATERIALS AND EQUIPMENT FURNISHED UNDER THIS SECTION SHALL BE NEW AND LISTED AND/OR LABELED BY THE UNDERWRITERS' LABORATORIES, INC., FOR THE APPLICATION, UNLESS OTHERWISE SPECIFIED HEREIN. MATERIALS, MATERIAL SIZES AND METHOD OF CONSTRUCTION NOT SPECIFIED SHALL BE AT LEAST EQUAL TO OR BETTER THAN THE STANDARDS AS LISTED BY THE UNDERWRITERS' LABORATORIES, INC., AND/OR THE REQUIREMENTS OF THE LAWS, REGULATIONS AND CODES MENTIONED HEREINAFTER. DEFECTIVE MATERIALS OR MATERIALS DAMAGED IN THE COURSE OF INSTALLATION OR TESTS SHALL BE REPLACED OR REPAIRED IN A MANNER MEETING WITH THE APPROVAL OF THE CLIENT.
  - ALL WORK UNDER THIS SECTION SHALL BE PERFORMED IN COOPERATION WITH THE WORK BY ALL OTHER CONTRACTORS AND SUBCONTRACTORS ON THE PROJECT, IN ORDER TO AVOID INTERFERENCES AND TO SECURE THE PROPER INSTALLATION OF ALL WORK. THIS CONTRACTOR SHALL REVIEW THE DRAWINGS AND SPECIFICATIONS COVERING THE WORK TO BE PERFORMED UNDER ALL SECTIONS, SO THAT HE UNDERSTANDS THE RELATION AND EXTENT OF THE WORK OF THIS SECTION WITH RESPECT TO THE WORK OF THE OTHER SECTIONS.
  - ALL WORK SHALL BE COORDINATED WITH THE OWNER & CLIENT AND SHALL MEET ALL CLIENT STANDARDS WHERE APPLICABLE AND SHALL BE SUBJECT TO APPROVAL FROM AN AUTHORIZED CLIENT REPRESENTATIVE. ALL MATERIALS USED SUCH AS CONDUIT, WIRING, LIGHT FIXTURES, WIRING DEVICES, ETC. SHALL MEET CLIENT STANDARDS UNLESS OTHERWISE INDICATED.

### E-3 LAWS, REGULATIONS AND CODES

- A. GENERAL:
- ALL WORK UNDER THIS SECTION SHALL COMPLY WITH THE APPLICABLE FEDERAL, STATE, LOCAL CODES AND AUTHORITIES. WHERE REFERENCE IS MADE TO LAWS, CODES, REGULATIONS AND STANDARDS, THESE DOCUMENTS, INCLUDING THE LATEST REVISIONS AND AMENDMENTS THERETO IN EFFECT AS OF THE DATE OF BID OPENING, SHALL FORM PART OF THESE SPECIFICATIONS.

### E-4 SHOP DRAWINGS

- A. GENERAL: MANUFACTURER'S DATA OR SHOP DRAWINGS OF THE FOLLOWING APPARATUS GIVING FULL INFORMATION AS TO DIMENSIONS, MATERIALS, AND ALL INFORMATION PERTINENT TO THE ADEQUACY OF THE SUBMITTED EQUIPMENT INCLUDING WIRING DIAGRAMS SHALL ALSO BE SUBMITTED FOR APPROVAL AS DIRECTED:

- CONDUIT
- CONDUCTORS
- WIRING DEVICES
- LIGHTING FIXTURES
- LIGHTING CONTROL DEVICES/SYSTEMS
- EXIT LIGHTING UNITS
- FIRE ALARM SYSTEM (DEVICES/WIRING DIAGRAM/CALCULATIONS)

### E-5 RECORD DRAWINGS

- A. GENERAL:
- THE CONTRACTOR SHALL MAINTAIN AN ACCURATE RECORD OF ALL DEVIATIONS IN WORK AS ACTUALLY INSTALLED FROM WORK AS INDICATED. THIS RECORD SHALL BE UPDATED DAILY AND SHALL BE KEPT AVAILABLE AT THE SITE FOR INSPECTION. UPON COMPLETION OF THE WORK, AND BEFORE FINAL PAYMENT IS AUTHORIZED, MARKED PRINTS WITH SIGNED CERTIFICATION OF ACCURACY, SHALL BE DELIVERED TO THE OWNER'S REPRESENTATIVE.

### E-6 INSTALLATION OF WORK

- A. GENERAL:
- THE CONTRACTOR SHALL BE RESPONSIBLE TO EXAMINE THE SITE AND CHECK ALL FIELD CONDITIONS. NOTIFY THE ENGINEER OF ANY CONDITION WHICH DIFFERS FROM THAT INDICATED ON THE PLAN.
  - ALL WORK SHALL BE CAREFULLY LAID OUT IN ADVANCE SO THAT UNNECESSARY CUTTING, CHANNELING, CHASING OR DRILLING OF WALLS, PARTITIONS, FLOORS, CEILINGS OR OTHER SURFACES WILL BE AVOIDED. WHERE WORK IS NECESSARY FOR THE PROPER INSTALLATION, SUPPORT OR ANCHORAGE OF RACEWAYS, OUTLETS OR OTHER ELECTRICAL WORK, IT SHALL BE CAREFULLY DONE IN SUCH A MANNER AS TO AVOID ANY DAMAGE. ALL WORK WHICH MAY BE DAMAGED SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER.
  - ALL ELECTRICAL WORK SHALL BE PROTECTED AGAINST DAMAGE DURING CONSTRUCTION AND ANY WORK DAMAGED OR MOVED OUT OF LINE AFTER ROUGHING-IN SHALL BE REPAIRED AND RESET TO THE APPROVAL OF THE OWNER.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL ROUTING IN THE FIELD WITH EXISTING EQUIPMENT. PROVIDE ALL NECESSARY OFFSETS TO AVOID EXISTING EQUIPMENT & OBSTRUCTIONS.
  - CORE DRILLING OR TRENCHING THROUGH AN EXISTING FLOOR SLAB, WHEN REQUIRED, SHALL BE COORDINATED WITH THE OWNER. FLOOR SLABS SHALL BE RADAR SCANNED PRIOR TO CORE DRILLING OR TRENCHING. ALL WORK, INCLUDING CORE DRILLING, RADAR SCAN, INSTALLATION OF FIRE STOPPING, & CONDUIT/CABLE INSTALLATION SHALL BE PERFORMED DURING NON-BUSINESS HOURS AND
- SPECIFICATIONS CONTINUED ON NEXT PAGE.

**Lothrop Associates Architects D.P.C.**  
**333 Westchester Avenue**  
**White Plains, New York 10604**  
**914-741-1115**

OLA Consulting Engineers  
50 Broadway,  
Hawthorne, NY 10532  
914.747.2800  
8 West 38th Street,  
Suite 501  
New York, NY 10018  
646.849.4110  
olace.com

ISSUE NO.	ISSUE DATE	DESCRIPTION
3	03/04/2024	ISSUED FOR BID
2	11/22/2023	100% CDs - ISSUE FOR CLIENT REVIEW
1	08/22/2023	ISSUED FOR SCHEMATIC DESIGN

# WARNER LIBRARY

## CHILDREN'S LIBRARY ACOUSTICAL TILE CEILING AND PIPE INSULATION REPLACEMENT

## ELECTRICAL SYMBOLS, ABBREVIATIONS, NOTES & SPECIFICATIONS

PROJECT NO.: NLAA0034.00	SCALE: AS NOTED
--------------------------	-----------------

DRAWING NO: E-001

**SPECIFICATIONS CONTINUED**

INCLUDED IN BASE BID. USE EXTREME CAUTION DURING ANY CUTTING OPERATION TO AVOID DAMAGE TO EXISTING EQUIPMENT/SYSTEMS. ANY ITEMS DAMAGED AS A RESULT OF CORE DRILLING SHALL BE REPAIRED AT NO COST TO THE CLIENT. ALL CORES SHALL BE FIRE SEALED.

6. CONTRACTOR SHALL VERIFY CONDUIT ROUTING WITH OWNER AND/OR CLIENT PRIOR TO INSTALLATION.

**B. CONDUIT WORK:**

2. ALL THREADED JOINTS IN CONDUIT WORK SHALL BE MADE WATERTIGHT BY A COATING OF THOMAS & BETTS KOPR-SHIELD COMPOUND ON THE MALE THREADS ONLY. WHENEVER THREADS ARE CUT, THEY SHALL BE COATED WITH KOPR-SHIELD BEFORE MAKING UP THE CONNECTION.

3. EXPOSED CONDUIT ON CEILING SHALL BE RUN PARALLEL OR PERPENDICULAR TO WALL AND VISE VERSA TO CEILING. WHEN INSTALLED ON WALL. SECURE CONDUIT CLAMPS AND SUPPORTS TO MASONRY MATERIALS BY TOGGLE BOLT, EXPANSION BOLT OR STEEL INSERT. SPACING OF CONDUIT SUPPORTS SHALL NOT EXCEED 7 FEET.

4. THE ENDS OF ALL CONDUIT SHALL BE CAREFULLY REAMED OUT FREE FROM BURRS BEFORE INSTALLATION AND AFTER THREADING. THE END OF EACH CONDUIT 1" AND SMALLER SHALL BE PROVIDED WHERE IT ENTERS A JUNCTION BOX, OUTLET BOX, CABINET, ETC., WITH A LOCK NUT AND BUSHINGS. FOR CONDUITS 1-1/4" AND LARGER, INSULATED BUSHINGS SHALL BE USED. IF INSULATED BUSHINGS ARE OF THE FULLY INSULATED TYPE, AN ADDITIONAL LOCK NUT SHALL BE USED INSIDE JUNCTION BOX OR CABINET BEFORE INSTALLING THE BUSHINGS.

5. FLEXIBLE SEAL-TITE CONDUIT AND SEAL-TITE FITTINGS SHALL BE USED TO CONNECT ALL MOTORS SO AS TO ISOLATE THE MOTION OR VIBRATION FROM THE RIGID CONDUIT SYSTEM AND THE BUILDING. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE PROVIDED IN ALL FLEXIBLE CONDUITS.

6. CONDUITS SHALL BE SECURELY FASTENED IN PLACE WITH STRAPS, HANGERS AND SUPPORTS AS REQUIRED.

7. CONDUIT IN HUNG CEILINGS SHALL BE SUPPORTED IN AN APPROVED MANNER FROM THE BUILDING STRUCTURE.

8. FLEXIBLE METALLIC CONDUIT OR MC CABLE SHALL BE USED FOR BRANCH CIRCUIT WIRING ABOVE HUNG CEILINGS AND IN PARTITIONS.

9. THE CONTRACTOR SHALL PROVIDE PULL BOXES, JUNCTION BOXES, CONDUITS, CONDUIT ELBOWS, AND OFFSETS IN CONDUIT RUNS WHICH INTERFERE WITH THE STRUCTURAL WOOD OR STEEL, MECHANICAL EQUIPMENT, DUCTWORK, PIPING, ETC., TO SUIT THE FIELD CONDITIONS.

10. NO MORE THAN THREE RIGHT ANGLE BENDS SHALL BE PERMITTED IN CONDUIT BETWEEN ANY TWO TERMINATION OR PULLBOXES. PROVIDE ADDITIONAL PULLBOXES AS REQUIRED.

11. TELEPHONE SERVICE CONDUITS SHALL HAVE ONE 18"x18"x8" PULL BOX AFTER 270 DEGREES OF BENDS WITH A MAXIMUM OF 360 DEGREES OF BEND PER RUN. ALL BENDS IN CONDUIT SHALL BE SWEEPING BENDS FOR FIBER OPTIC CABLE. 90 DEGREE BENDS SHALL NOT BE PERMITTED.

12. ALL MC CABLE RUNS ABOVE HUNG CEILINGS SHALL BE SECURED TO BUILDING STRUCTURE. NO MC CABLES SHALL BE LEFT UNSUPPORTED ON DUCTWORK OR CEILING TILES.

13. WHERE MULTIPLE HOME RUNS ARE ROUTED TOGETHER IN THE SAME RACEWAY LONGER THAN 24 INCHES, CONDUCTORS SHALL BE INCREASED TO #10 AWG FOR UP TO EIGHT CONDUCTORS (HOT & NEUTRAL) MAXIMUM. INSTALLATION SHALL BE IN ACCORDANCE WITH THE AFOREMENTIONED CODE.

**C. CABLE AND WIRING WORK:**

1. CONDUCTORS FOR BRANCH CIRCUITS SHALL BE OF SIZES INDICATED ON THE ELECTRICAL DRAWINGS, BUT SHALL NOT BE SMALLER THAN NO. 12 AWG EXCEPT AS OTHERWISE SHOWN OR SPECIFIED.

2. ALL JOINTS, SPLICES AND TAPS FOR WIRING CONNECTIONS SHALL BE MADE WITH MATERIALS AS HEREINAFTER SPECIFIED.

3. CONDUCTORS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET, AND NO SPLICES OR CONNECTIONS SHALL BE MADE, EXCEPT WITHIN OUTLET BOXES, JUNCTION BOXES OR CABINETS.

4. THE NEUTRAL WIRE SHALL NOT BE USED AS A GROUND WIRE. THE NEUTRAL WIRE SHALL BE AN INSULATED WIRE AND SHALL BE CONNECTED TO THE GROUND SYSTEM AT ONE PLACE ONLY. THIS CONNECTION SHALL BE MADE AT THE BEGINNING OF THE SEPARATELY DERIVED SYSTEM.

5. TELEPHONE/DATA CABLING RUN ABOVE THE HUNG CEILING SHALL NOT BE LEFT UNSUPPORTED. ALL CABLING SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE.

**D. ELECTRICAL GROUNDING AND BONDING:**

1. ALL CABINETS AND TERMINAL BOXES SHALL BE BONDED TO THE CONDUIT SYSTEM, AND WHERE APPLICABLE TO THE GROUND WIRE.

2. THE ELECTRICAL RACEWAY SYSTEM, METALLIC ELECTRICAL EQUIPMENT FRAMES, HOUSING AND ENCLOSURES SHALL BE BONDED TOGETHER AND GROUNDED.

3. THE EQUIPMENT BONDING JUMPERS SHALL NOT BE SMALLER THAN THE SIZES LISTED IN THE AFOREMENTIONED CODE.

4. GROUND LUGS FOR CABLE CONNECTIONS SHALL BE SIMILAR TO BURNDY, TYPE YAV FOR CONDUCTOR SIZES AS PERMITTED BY THE AFOREMENTIONED CODES.

5. ALL GROUNDING AND BONDING SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER AND SHALL BE AS INCONSPICUOUS AS POSSIBLE. ALL WORK EXPOSED TO MECHANICAL DAMAGE SHALL BE PROTECTED IN AN APPROVED MANNER. ALL GROUND SCREWS AND BUSHINGS SHALL BE MADE TIGHT.

6. THE PROVISION OF A FULLY-WIRED GROUNDING SYSTEM DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR PROVIDING CONTINUITY OF THE METALLIC RACEWAY SYSTEM. THE METALLIC RACEWAY SYSTEM SHALL BE ASSEMBLED AND BONDED TOGETHER TO FORM A CONTINUOUS PATH FROM THE MOST REMOTE OUTLET.

7. ALL GROUNDING WIRES, EXCEPT AS OTHERWISE SPECIFIED OR INDICATED ON THE DRAWINGS, SHALL BE SIZED IN ACCORDANCE WITH THE RULES OF THE AFOREMENTIONED CODE.

8. FOR CONNECTION TO THE GROUNDING SYSTEM, THE CONTRACTOR SHALL FURNISH AND INSTALL A GROUND LUG WELDED TO THE INTERIOR OF EVERY METALLIC BOX, CABINET, HOUSING OR ENCLOSURE WHICH IS FURNISHED UNDER THIS OR ANY OTHER SECTION OF THE SPECIFICATIONS.

9. EACH STEEL BOX SHALL BE CONNECTED BY THE USE OF A GROUNDING BUSHING ON RIGID CONDUIT, O.Z. TYPE BLG.

10. A SEPARATE GREEN INSULATED GROUND WIRE SHALL BE RUN WITH EACH CIRCUIT AS INDICATED.

**E. OUTLET BOXES:**

1. OUTLET BOXES SHALL BE INSTALLED AT ALL LOCATIONS SHOWN ON THE DRAWINGS FOR ALL ELECTRICAL DEVICES INCLUDING CONVENIENCE RECEPTACLES AND LIGHTING FIXTURES. THE LOCATIONS OF THE OUTLETS ON THE DRAWINGS ARE APPROXIMATE. ACTUAL LOCATIONS SHALL BE COORDINATED IN THE FIELD.

2. ALL OUTLETS SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS AND NONE SHALL BE INSTALLED ABOVE DUCTS, BEHIND FURRING OR OTHER SIMILAR LOCATIONS. ANY OUTLET DESIGNATED AS PROVIDING POWER FOR A PARTICULAR PIECE OF EQUIPMENT SHALL BE ACCESSIBLE FOR DISCONNECTION WITH SAID UNIT IN PLACE. ALL JUNCTION BOXES SHALL BE LABELED IDENTIFYING THE CIRCUIT(S) CONTAINED.

3. OUTLETS IN HUNG CEILING AREAS SHALL BE CONCEALED ABOVE HUNG CEILING FOR RECESSED LIGHTING FIXTURES; OR SET FLUSH WITH HUNG CEILING FOR SURFACE AND PENDANT MOUNTED LIGHTING FIXTURES. THESE OUTLETS SHALL BE SECURELY SUPPORTED FROM THE FRAMING WORK WHICH SUPPORTS THE CEILING OR FROM THE BUILDING STRUCTURE ABOVE THE CEILING.

4. WHERE NECESSARY FOR THE SUPPORT OF THE ELECTRICAL WORK, BARS, ANGLES OR CHANNEL MEMBERS OF SUITABLE SIZE SHALL BE FURNISHED AND INSTALLED.

5. MOUNTING HEIGHTS FOR ELECTRICAL DEVICES SHALL BE AS INDICATED ON ARCHITECTURAL PLANS. IF THERE ARE NO ARCHITECTURAL PLANS FOR THIS PROJECT THE MOUNTING SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE PLANS:

a. LIGHT SWITCHES: 48" AFF TO CENTERLINE OF BOX.  
b. WALL MOUNTED OCCUPANCY SENSORS: 48" AFF TO CENTERLINE OF BOX.  
c. RECEPTACLES: 18" AFF TO CENTERLINE OF BOX.  
d. DATA/TELEPHONE OUTLETS: 18" AFF TO CENTERLINE OF BOX.  
e. FIRE ALARM MANUAL PULL STATION: 42" MIN./48" MAX. AFF TO HANDLE.  
f. FIRE ALARM AUDIO AND/OR STROBE: 80" AFF TO BOTTOM OF STROBE LENS OR 6" FROM CEILING TO TOP OF STROBE LENS, WHICHEVER IS LOWER.

6. BLANK STEEL BOX COVERS SHALL BE INSTALLED ON ALL UNUSED OUTLETS UNLESS OTHERWISE INDICATED. IN FINISHED AREAS, BLANK COVERS SHALL BE PROVIDED. COLOR SHALL BE COORDINATED WITH THE ARCHITECT.

7. OUTLET BOXES FOR SWITCHES, RECEPTACLES AND COMMUNICATION OUTLETS SHALL NOT BE MOUNTED BACK-TO-BACK

**E-7 MATERIALS**

**A. CONDUIT:**

7. MINIMUM SIZE OF CONDUIT SHALL BE 3/4" EXCEPT FOR LOW VOLTAGE CONTROL AND WIRING BETWEEN LIGHT FIXTURES WHERE 1/2" CONDUIT MAYBE USED OR UNLESS OTHERWISE INDICATED ON THE DRAWINGS OR SPECIFIED.

8. FLEXIBLE METALLIC CONDUIT, EXCEPT WHERE OTHERWISE SPECIFIED, SHALL BE SINGLE-STRIP ELECTROGAL VANIZED, SPIRALLY-WOUND, INTERLOCKED, STEEL FLEXIBLE CONDUIT.

9. MC CABLE MAY BE USED FOR WIRING IN CONCEALED AREAS OR AS INDICATED ON DRAWINGS. EMT SHALL BE USED IN ALL EXPOSED AREAS AND FOR WIRING PENETRATING FLOOR.

10. LOCKNUTS SHALL BE HEAVY GAUGE SHEET STEEL TYPE WITH A PLATED CORROSION-RESISTANT COATING.

11. BUSHINGS SHALL BE MALLEABLE IRON INSULATED TYPE WITH A CADMIUM COATING.

12. ALL CONDUIT INSTALLED IN WET LOCATIONS, OR WHERE EXPOSED TO WEATHER SHALL BE RIGID GALVANIZED STEEL CONDUIT (RGS), CONDUITS INSTALLED UNDERGROUND SHALL BE SCHEDULE 40 PVC AND INTERIOR CONDUITS SHALL BE EMT U.O.N.

13. ALL MAIN FEEDERS AND CIRCUITRY FOR MECHANICAL EQUIPMENT OR IN EXPOSED AREAS SHALL BE IN CONDUIT.

**B. SLEEVES:**

1. SLEEVES THROUGH FIRE RESISTANT WALLS AND CEILINGS SHALL BE COMPLETELY PACKED WITH NON-COMBUSTIBLE FIRE STOP MATERIAL RATED FOR THE PARTICULAR WALL BEING PENETRATED. PENETRATIONS THRU FIRE RATED MATERIAL SHALL BE MINIMIZED.

**C. WIRE AND CABLE:**

1. ALL WIRE AND CABLE SHALL HAVE SOFT ANNEALED COPPER CONDUCTORS WITH 600 VOLT INSULATION, AND SHALL BE LISTED AND APPROVED BY UNDERWRITERS' LABORATORIES, AND SHALL MEET

ALL SPECIFICATIONS OF THE IPCEA-NEMA STANDARDS.

2. ALL WIRE FOR GENERAL USE, UNLESS SHOWN OR SPECIFIED OTHERWISE, SHALL BE TYPE THHN. ALL WIRE INSTALLED UNDERGROUND OR ON ROOFTOPS SHALL BE TYPE XHHW-2 UNLESS OTHERWISE NOTED. WIRE #10 AWG AND SMALLER SHALL BE CONSISTENTLY COLOR CODED THROUGHOUT BY MEANS OF COLORING APPLIED TO THE OUTER COVERING TO INDICATE PHASE AND NEUTRAL. ALL OTHER WIRES AND CABLES SHALL BE COLOR CODED BY APPLICATION OF A BAND OF APPROPRIATELY COLORED PLASTIC TAPE APPLIED OVER THE JACKETS AT EACH OUTLET, JUNCTION, PULL AND TERMINAL POINTS. THE COLOR CODING FOR WIRING SHALL BE:

120/208V	277/480V		
PHASE A	BLACK	BROWN	
PHASE B	RED	ORANGE	
PHASE C	BLUE	YELLOW	
	NEUTRAL	WHITE	GRAY
	GROUND	GREEN	GREEN

3. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE MINIMUM #12 AWG SIZE UNLESS OTHERWISE INDICATED.

4. GROUND WIRE AND CABLE SHALL BE COPPER CONDUCTORS.

5. 120 VOLT CONDUCTOR LENGTHS IN EXCESS OF 100 FEET SHALL BE #10 AWG MIN.

**D. CONNECTORS FOR WIRE AND CABLE:**

1. WIRE AND CABLE CONNECTORS SHALL BE SOLDERLESS, MECHANICAL, SOLID COPPER OR COPPER ALLOY TYPES. CONNECTORS SHALL BE BUCHANAN ELECTRICAL PRODUCTS COPPER SQUEEZE-ON TYPE WITH MOLDED RUBBER OR VINYL CAP, MINNESOTA MINING AND MANUFACTURING COMPANY "SCOTCHLOCK" OR IDEAL INDUSTRIES "SUPER NUT" SPRING CONNECTOR WITH MOLDED VINYL CAP.

2. CONNECTORS FOR CONDUCTORS LARGER THAN #8 AWG SHALL BE MECHANICAL BOLTED TYPE, INSULATED WITH CLAMP-ON MOLDED COVERS. THE MANUFACTURER SHALL BE OZ ELECTRICAL MANUFACTURING COMPANY OR BURNDY ENGINEERING COMPANY.

3. ELECTRICAL INSULATING TAPE SHALL BE VINYL PLASTIC TYPE WITH PRESSURE ADHESIVE, MINNESOTA MINING AND MANUFACTURING COMPANY "SCOTCH" NO. 33 ELECTRICAL TAPE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. ALL CONNECTORS AND CONNECTIONS HAVING IRREGULAR SURFACES SHALL BE PROPERLY PADDED WITH "SCOTCHFIL" PUTTY PRIOR TO APPLICATION OF TAPE.

4. ALL CABLE TIES INSTALLED IN PLENUM SHALL BE PANDUIT, TYPE HALAR, U.L. LISTED/APPROVED FOR USE IN PLENUM AREAS. ALL OTHER LOCATIONS SHALL BE NYLON TIE STRAPS AS MANUFACTURED BY THOMAS AND BETTS.

**E. WIRING AND OUTLET DEVICES:**

1. UNLESS OTHERWISE NOTED, WIRING DEVICES SHALL BE AS HEREIN SPECIFIED OR AS PER BUILDING STANDARDS, INDUSTRIAL GRADE. DEVICES AND COVER PLATES SHALL BE GANGED UNDER COMMON FACEPLATE U.O.N. AND SHALL MATCH EXISTING DEVICES. VERIFY IN FIELD.

2. DUPLEX RECEPTACLES SHALL BE 15 OR 20 AMPERE, TWO-POLE, THREE WIRE, 125 VOLT, SELF GROUNDING, NEMA 5-15 OR 5-20, WITH MATCHING DEVICE PLATE.

3. ISOLATED GROUND DUPLEX RECEPTACLE SHALL BE 15 OR 20 AMPERE, 125 VOLT, NEMA 5-15 OR 5-20, (ORANGE) WITH WHITE COVER PLATE.

4. SINGLE POLE, THREE-WAY AND FOUR-WAY SWITCHES SHALL BE 15 OR 20 AMPERE, 120/277 VOLTS, TOGGLE TYPE, WITH MATCHING DEVICE PLATE.

5. GFI RECEPTACLE SHALL BE 15 OR 20 AMPERE, TWO-POLE, THREE WIRE, 125 VOLT, NEMA 5-15 OR 5-20, WITH MATCHING DEVICE PLATE. COORDINATE COLOR WITH ARCHITECT.

**F. OUTLET AND JUNCTION BOXES:**

1. RECESSED CEILING FIXTURE OUTLETS SHALL BE 4-11/16" SQUARE SHEET METAL BOX WITH BLANK COVER AND SUITABLE HANGER BAR; BOX TO BE FASTENED TO CEILING SUSPENSION MEMBERS IN AN APPROVED MANNER, NOT LESS THAN 1'-0" FROM FIXTURE OPENING.

2. EXTENSION RINGS FOR FLUSH OUTLETS SHALL BE GALVANIZED, DRAWN SHEET STEEL 4" OCTAGONAL OR SQUARE, 4-11/16" SQUARE RINGS TO SUIT FLUSH OUTLETS, 1-1/2" DEEP OR DEEPER WHERE NECESSARY.

3. ALL EQUIPMENT EXPOSED TO THE OUTDOORS SHALL BE IN A NEMA-3R ENCLOSURE, INCLUDING THE GFI RECEPTACLES.

**G. MISCELLANEOUS MATERIALS:**

1. PIPE STRAPS FOR EXPOSED CONDUIT SHALL BE HEAVY DUTY CADMIUM OR ZINC COATED, ONE SCREW, MALLEABLE RIGID CONDUIT CLAMPS, COMPLETE WITH BACKSTRAPS (CLAMP BACKS), APPLETON ELECTRIC COMPANY #17100 AND #27100 LINE.

2. HANGER RODS SHALL BE GALVANIZED OR CADMIUM PLATED THREADED STEEL RODS OF ADEQUATE SIZE TO SUPPORT THE LOAD WHICH THEY CARRY. MINIMUM DIAMETER SHALL BE 1/2".

3. INSERTS IN EXISTING CONCRETE WORK SHALL BE EXPANSION ANCHORS WITH TAPPED STEEL OR BRASS CORE NUTS SET IN DRILLED HOLES. PIERCE, PHILLIPS READ HEAD, STAR OR ACKERMAN-JOHNSON EXPANSION NUTS WILL BE ACCEPTABLE.

4. SPECIAL FASTENERS SHALL COMPRISE MISCELLANEOUS TYPES OF CONDUIT AND BOX FASTENERS OF MALLEABLE IRON OR STEEL WITH A CORROSION-RESISTANT COATING OF CADMIUM OR ZINC; THESE SHALL BE PROVIDED AS REQUIRED OR NECESSARY TO COMPLETE THE INSTALLATION OF ELECTRICAL WORK. THE TYPE SELECTED SHALL BE OF ADEQUATE STRENGTH FOR THE LOAD TO WHICH IT IS SUBJECTED AND OF A DESIGN SUITED TO THE INSTALLATION

CONDITIONS.

5. FASTENING HARDWARE SHALL BE CADMIUM OR ZINC-PLATED STEEL, SHEET METAL OR MACHINE SCREWS, BOLTS, NUTS, WASHERS, SHIMS AND SIMILAR FASTENING ACCESSORY HARDWARE.

6. REFER TO ENGINEERING DRAWINGS (ELECTRICAL, MECHANICAL OR PLUMBING) FOR DETAIL.

**H. LIGHTING FIXTURES:**

1. FURNISH AND INSTALL ALL LIGHTING FIXTURES SHOWN AND AS DESCRIBED ON THE DRAWINGS. ALL NEW FIXTURES SHALL BE AS INDICATED BY THE FIXTURE SCHEDULE. ALL FIXTURES SHALL BE FURNISHED AND INSTALLED COMPLETE WITH ALL MOUNTING HARDWARE AS REQUIRED BY SPECIFIC CEILING CONSTRUCTION OR OTHER MOUNTING METHODS. ALSO PROVIDE ALL YOKES, BACKBOXES, APPROVED HANGERS, ALL REQUIRED MISCELLANEOUS HARDWARE AND LAMPS. ALL STEEL PARTS SHALL BE BONDERIZED AND PHOSPHATIZED. ALL FIXTURES AND TRIMS SHALL BE FREE FROM LIGHT LEAKS.

2. SUPPORT EACH FIXTURE SECURELY. RECESSED FLUORESCENT FIXTURES SHALL BE SECURED AT A MINIMUM OF TWO POINTS TO THE BUILDING STRUCTURE TO MEET THE LOCAL BUILDING CODE SEISMIC REQUIREMENTS.

3. UPON COMPLETION OF WORK AND AFTER THE BUILDING AREA IS BROOM CLEAN, ALL FIXTURES SHALL BE MADE CLEAN. USE DESTAINTIZING CLOTH ON ALL PLASTIC AND GLASS MATERIAL.

4. RELAMPING ACCESS SHALL REQUIRE NO SPECIAL TOOLS.

5. ALL FLUORESCENT FIXTURES SHALL BE EQUIPPED WITH ELECTRONIC BALLASTS.

6. ALL FLUORESCENT LAMPS SHALL BE WARM WHITE 3000K, 82 CRI UNLESS OTHERWISE INDICATED. FURNISH NEW LAMPS FOR ALL NEW FIXTURES.

**I. PULLBOXES AND TROUGHS:**

12. PULLBOXES AND TROUGHS WITH COVERS SHALL BE FABRICATED FROM MINIMUM #12 USSG GALVANIZED SHEET STEEL WITH ALL SEAMS AND JOINTS WELDED AND GROUND SMOOTH. COVERS SHALL BE SECURED TO PULLBOXES WITH NICKEL OR CADMIUM PLATED, OVAL HEAD SCREWS PROVIDED WITH STOP BEAD WASHERS. TROUGHS SHALL HAVE HINGED COVERS AND SHALL BE HELD CLOSED WITH EXTERNAL CLAMPS. DIMENSIONS OF BOXES AND TROUGHS SHALL BE AS REQUIRED BY ARRANGEMENT OF CONDUITS, EQUIPMENT OR APPLICABLE CODE REQUIREMENTS.

13. PULLBOXES AND TROUGHS SHALL BE FINISHED INSIDE AND OUTSIDE WITH A SHOP-APPLIED COAT OF ASA #61 LIGHT GRAY ENAMEL.

14. THE CONTRACTOR SHALL PROVIDE ALL PULLBOXES REQUIRED TO PULL WIRES IN CONDUIT RUNS WHETHER INDICATED ON THE DRAWINGS OR NOT. BOXES AND TROUGHS USING CONCENTRIC OR ACENTRIC KNOCKOUTS SHALL BE GROUNDED TO THE INCOMING CONDUITS BY MEANS OF GROUNDING FITTINGS AND BONDING JUMPERS. OZ TYPE BLG INSULATED GROUNDING BUSHINGS, AS SPECIFIED ELSEWHERE, SHALL BE USED. BONDING JUMPERS SHALL BE COPPER SIZED IN ACCORDANCE WITH THE AFOREMENTIONED CODE. A GROUND LUG SHALL BE WELDED INSIDE EACH BOX AND TROUGH.

**M. ALTERATIONS AND REMOVAL OF EXISTING EQUIPMENT, CONDUIT & WIRING:**

1. THE EXISTING BUILDING ELECTRICAL SYSTEMS SHALL BE MAINTAINED IN OPERATION DURING THE CONSTRUCTION PERIOD. EXISTING SYSTEMS SHALL NOT BE SHUT DOWN NOR SHALL CONNECTIONS BE MADE THERETO WITHOUT PRIOR APPROVAL OF THE OWNER.

2. CERTAIN EXISTING CONDUITS AND ASSOCIATED WIRING ARE INDICATED ON THE DRAWINGS ACCORDING TO THE BEST INFORMATION AVAILABLE. CERTAIN OTHER EXISTING CONDUITS AND ASSOCIATED WIRING MAY NOT BE SHOWN. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO DETERMINE THE LOCATION OF EXISTING CONDUIT AND WIRING AS REQUIRED FOR NEW CONSTRUCTION OR IF DAMAGED DURING CUTTING OPERATIONS, REPLACE/REPAIR AT NO EXPENSE TO THE OWNER.

3. WHERE EQUIPMENT IS REMOVED OR WHERE WALLS AND CEILINGS ARE DEMOLISHED, WIRING DEVICES, CONDUIT, WIRING AND INSTALLATION MATERIAL (FITTINGS, BOXES, HANGERS, SUPPORTS, ETC.) THAT IS NOT TO BE REUSED SHALL BE REMOVED. ALL CONDUITS REMOVED SHALL BE CUT FLUSH WITH CONSTRUCTION AND OPENINGS PATCHED. ALL WIRING REMOVED SHALL BE DISCONNECTED AS FAR BACK AS THE BRANCH CIRCUIT PANELBOARD TERMINALS UNLESS OTHERWISE NOTED. WHERE WIRING IS TO REMAIN IN EXISTING CONDUITS TO MAINTAIN CONTINUITY OF CIRCUITS AND PASSES THROUGH OUTLET BOXES NOT TO BE REUSED FOR WIRING DEVICES OR LIGHTING FIXTURES, SUCH OUTLETS SHALL BE FURNISHED WITH COVERPLATES. ACTIVE CIRCUITS, IF REQUIRED AND NECESSARY TO REMAIN, SHALL BE REROUTED WITH NEW MATERIALS.

4. ALL EQUIPMENT WHICH IS BEING REMOVED AND NOT BEING REUSED SHALL BE RETURNED TO THE OWNER OR DISPOSED OF AS DIRECTED.

5. CONTRACTOR SHALL MEASURE STEADY STATE LOAD CURRENTS ON EACH PANELBOARD FEEDER OR EACH PANELBOARD THAT WAS ALTERED. SHOULD THE DIFFERENCE AT ANY PANELBOARD BETWEEN PHASES EXCEED 20 PERCENT, REARRANGE CIRCUITS IN PANELBOARD TO BALANCE THE PHASE LOAD WITHIN 20 PERCENT. TAKE CARE TO MAINTAIN PROPER PHASING FOR MULTI-WIRE BRANCH CIRCUITS. UPDATE DIRECTORIES ACCORDINGLY.

**E-8 FIRE ALARM SYSTEM MODIFICATIONS**

**A. NEW FIRE ALARM SYSTEM COMPONENTS AND OPERATION SHALL BE PER BUILDING STANDARDS AND AS INDICATED.**

**B. ALL NEW FIRE ALARM DEVICES TO BE INSTALLED IN THE SPACE SHALL BE SPECIFICATIONS CONTINUED ON NEXT PAGE.**



**333 Westchester Avenue  
White Plains, New York 10604  
914-741-1115**



OLA Consulting Engineers  
50 Broadway,  
Hawthorne, NY 10532  
914.747.2800  
8 West 38th Street,  
Suite 501  
New York, NY 10018  
646.849.4110  
olace.com

3	03/04/2024	ISSUED FOR BID
2	11/22/2023	100% Cds - ISSUE FOR CLIENT REVIEW
1	08/22/2023	ISSUED FOR SCHEMATIC DESIGN
ISSUE NO.	ISSUE DATE	DESCRIPTION

**WARNER LIBRARY**

**CHILDREN'S LIBRARY  
ACOUSTICAL TILE CEILING  
AND PIPE INSULATION  
REPLACEMENT**

**ELECTRICAL SPECIFICATIONS**

PROJECT NO.: NLA0034.00 SCALE: AS NOTED

DRAWING NO.:

**E-002**

SPECIFICATIONS CONTINUED

FURNISHED BY THIS CONTRACTOR. WIRING DIAGRAMS FOR SYSTEM CONNECTIONS SHALL BE OBTAINED AT THIS CONTRACTOR'S COST. CONNECTIONS TO THE LOCAL FIRE ALARM PANEL SHALL BE MADE BY THIS CONTRACTOR UNDER THE SUPERVISION OF A QUALIFIED, LICENSED F.A. INSTALLER. INSTALLATION OF CONTROL PANEL COMPONENTS AND SYSTEM PROGRAMMING SHALL BE ACCOMPLISHED BY A QUALIFIED LICENSED F.A. INSTALLER AT THIS CONTRACTOR'S EXPENSE.

C. THIS CONTRACTOR SHALL INCLUDE IN HIS BID, A PRICE FOR SYSTEM PROGRAMMING AND TESTING INCLUDING FINAL SYSTEM TEST WITH THE FIRE DEPARTMENT REPRESENTATIVE PRESENT. ARRANGEMENTS FOR THIS TEST SHALL BE MADE BY THIS CONTRACTOR.

D. ALL WORK AND WORKMANSHIP SHALL CONFORM TO THE AFOREMENTIONED CODES.

E. ALL WORK INVOLVING THE FIRE ALARM SYSTEM SHALL BE COORDINATED WITH THE BUILDING MANAGER. NO WORK SHALL BE PERFORMED WITHOUT THE BUILDING MANAGER'S APPROVAL.

F. ALL FIRE SYSTEM WIRING SHALL BE APPROVED FOR USE IN FIRE ALARM SYSTEMS AND SHALL BE PLENUM RATED WHERE RUN EXPOSED ABOVE HUNG CEILINGS. ALL FIRE ALARM WIRING WHICH IS NOT CONCEALED IN HUNG CEILING SPACES OR IN WALLS OR BELOW RAISED FLOOR SHALL BE RUN IN EMT. NO FIRE ALARM WIRING SHALL BE LEFT EXPOSED TO PHYSICAL DAMAGE. ALL CABLES SHALL BE LABELED AT BOTH ENDS INDICATING SOURCE AND DESTINATION. SPEAKERS, BELLS & HORNS SHALL BE WIRED ON SEPARATE CIRCUITS FROM THE STROBE UNITS. TWO PAIR OF WIRES SHALL BE ROUTED TO EACH COMBINATION AUDIO/VISUAL UNIT.

G. ALL FIRE ALARM DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF ADA. WALL MOUNTED AUDIO/VISUAL DEVICES SHALL BE MOUNTED AT 80" ABOVE THE FINISHED FLOOR OR 6" BELOW THE HUNG CEILING WHICHEVER IS LOWER.

E-9 PAINTING

A. PULL BOXES AND WIREWAYS SHALL BE SHOP PAINTED INSIDE AND OUTSIDE WITH ONE COAT OF PRIMER AND ONE COAT OF ENAMEL UNDERCOATER IN A LIGHT GRAY COLOR AS APPROVED BY THE CLIENT'S REPRESENTATIVE.

E-10 IDENTIFICATION

A. THE CONTRACTOR SHALL PROVIDE UPDATED TYPE WRITTEN PANELBOARD DIRECTORIES IN ALL NEW PANELBOARDS AND ANY EXISTING PANELBOARD THAT HAS BEEN ALTERED. CONTRACTOR SHALL TRACE CIRCUITS TO REMAIN AS REQUIRED.

B. ALL ELECTRICAL EQUIPMENT, SUCH AS PANELS, AND ALL OTHER SIMILAR ITEMS WHICH ARE FURNISHED UNDER THIS HEADING OF THE SPECIFICATIONS SHALL BE ADEQUATELY IDENTIFIED WITH ENGRAVED LAMINATED PLASTIC NAMEPLATE HAVING BLACK BACKGROUNDS AND WHITE LETTERS. WORDING ON THE NAMEPLATES SHALL CLEARLY INDICATE THE NAMES AND FUNCTIONS OF THE EQUIPMENT. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL, FIVE COPIES OF A LIST OF ALL EQUIPMENT TO BE IDENTIFIED TOGETHER WITH THE WORDING TO BE USED ON THE NAMEPLATES BEFORE ORDERING.

C. A MAINTENANCE LABEL SHALL BE AFFIXED TO ALL EQUIPMENT REQUIRING PREVENTATIVE MAINTENANCE. TWO COPIES OF ALL MAINTENANCE MANUALS SHALL BE PROVIDED TO THE CLIENT.

D. ALL FEEDERS SHALL BE TAGGED WITH APPROVED-TYPE STENCILED METAL TAGS IN ALL PANELS AND PULLBOXES THROUGH WHICH THEY ARE ROUTED. THIS TAGGING SHALL INCLUDE FEEDER NUMBER, PANEL SOURCE, CIRCUIT NUMBER, FEEDER SIZE AND EQUIPMENT SUPPLIED.

E. EACH DUPLEX AND QUAD RECEPTACLE SHALL BE LABELED WITH THE CIRCUIT NUMBER WHICH IT SERVES.

E-11 TESTING

A. ALL CIRCUITS SHALL BE TESTED FOR UNWANTED GROUNDS AND PROPER PHASE RELATION.

B. THE CONTRACTOR SHALL PROVIDE QUALIFIED PERSONNEL TO CONDUCT AND/OR TO ASSIST THE CLIENT'S REPRESENTATIVE TO CONDUCT OPERATING TESTS AT THE COMPLETION OF THE WORK. THESE OPERATING TESTS WILL INCLUDE CHECKING THE FOLLOWING ELECTRICAL SYSTEMS:

1. LIGHTING FIXTURES: OPERATION CHECK.
2. LIGHTING CONTROL SYSTEMS: ENGAGE A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE TO TEST AND INSPECT COMPONENTS, ASSEMBLIES, AND EQUIPMENT INSTALLATIONS, INCLUDING CONNECTIONS. PERFORM FULL OPERATIONAL TESTS. ADJUST CONTROLS AS NEEDED.
3. TEST ALL CIRCUITS FOR PROPER FUNCTIONING AND CONNECTION.
4. FIRE ALARM SYSTEM: COMPLETE OPERATION TEST WITNESSED BY FIRE DEPARTMENT PERSONNEL AND AS OTHERWISE SPECIFIED.
5. EMERGENCY POWER AND LIGHTING SYSTEMS VERIFICATION OF CONNECTION TO THE BUILDING EMERGENCY POWER.
6. ELECTRICAL CURRENT READINGS IN ALL PANELBOARDS AFFECTED BY WORK TO VERIFY BALANCING OF LOADS.

C. THE CONTRACTOR SHALL TEST THE CLIENT GROUNDING SYSTEM FOR CONTINUITY FROM THE INTERIOR GROUND RING TO THE WATER PIPE AND FROM THE ANTENNA MOUNTS TO THE WATER PIPE. TESTING SHALL BE PERFORMED IN THE PRESENCE OF THE CLIENT REPRESENTATIVE AND/OR ENGINEER.

E-12 TEMPORARY LIGHT AND POWER

A. THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND UPON COMPLETION, REMOVE SYSTEM OF TEMPORARY LIGHTING AND POWER FOR THE USE OF ALL CONSTRUCTION TRADES AS NECESSARY.

B. WIRING SHALL BE PROVIDED FOR TEMPORARY USE DURING BUILDING CONSTRUCTION, INCLUDING GROUNDING AND FUSED MAIN CUT-OFF SWITCHES. TEMPORARY ELECTRIC LINES WITH BRANCH SWITCHES SHALL BE PROVIDED FOR LIGHTING AND FOR TAPS FOR ELECTRIC TOOLS, PUMPS AND OTHER TEMPORARY EQUIPMENT; ALL EQUIVALENT TO A MAIN LINE LOOPED THROUGH FLOOR SPACES AND UP STAIRWELLS OR SHAFTS. ALL POWER OUTLETS SHALL BE GROUNDED TO AN EQUIPMENT GROUND WIRE IN AN APPROVED MANNER. ELECTRIC LINES SHALL BE EXTENDED TO POWER TOOLS WHICH CANNOT BE LOCATED WITHIN REACH OF EXTENSION CORDS.

C. LIGHT BULBS SHALL BE PROVIDED IN SUFFICIENT QUANTITY TO LIGHT THE BUILDING FOR SAFETY PURPOSES. EXTENSION CORDS SHALL BE PROVIDED AS MAY BE ESSENTIAL TO THE PROPER EXECUTION OF THE WORK.

D. TEMPORARY LIGHTING SHALL BE PROVIDED FOR ALL STAIRS AND OTHER LOCATIONS WHERE NEEDED FOR SAFETY OR THE PROPER EXECUTION OF WORK AND SHALL CONFORM TO ALL OSHA STANDARDS.

E. THE ELECTRICAL CONTRACTOR SHALL MAINTAIN TEMPORARY LIGHTING AND POWER SYSTEMS IN GOOD WORKING CONDITION, INCLUDING THE RELOCATION AND REINSTALLATION WHEN REQUIRED TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.

F. PROVIDE GROUND FAULT PERSONNEL PROTECTION FOR ALL SINGLE PHASE, 15 AND 20 AMPERE RECEPTACLES. ALL RECEPTACLES AND PORTABLE CORD CONNECTORS SHALL HAVE NEMA STANDARD LOCKING TYPE CONFIGURATIONS AND SHALL CONFORM TO ALL OSHA STANDARDS.



333 Westchester Avenue  
White Plains, New York 10604  
914-741-1115



OLA Consulting Engineers

50 Broadway,  
Hawthorne, NY 10532  
914.747.2800

8 West 38th Street,  
Suite 501  
New York, NY 10018  
646.849.4110

olace.com


3	03/04/2024	ISSUED FOR BID
2	11/22/2023	100% CDs - ISSUE FOR CLIENT REVIEW
1	08/22/2023	ISSUED FOR SCHEMATIC DESIGN

ISSUE NO.	ISSUE DATE	DESCRIPTION

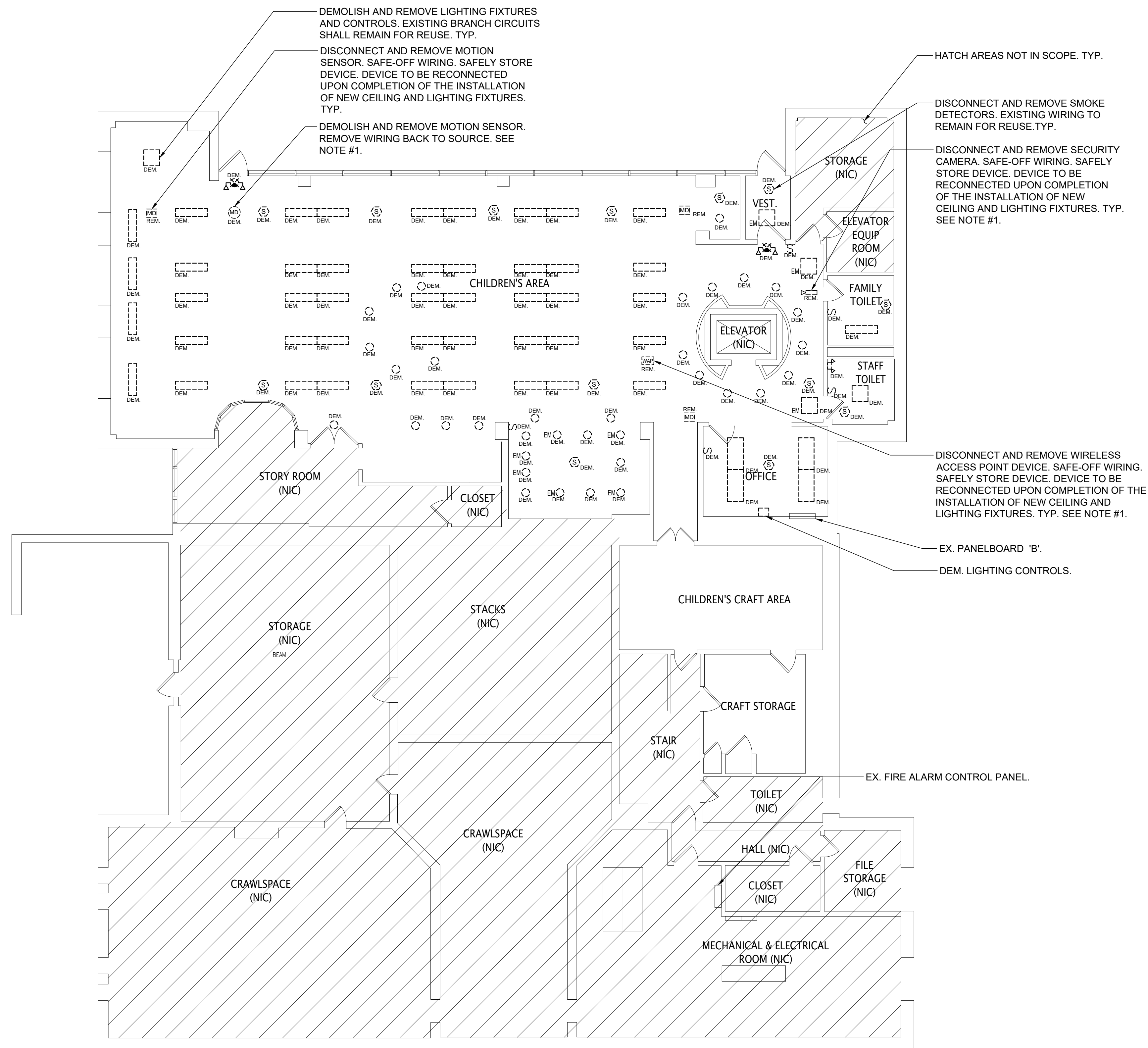
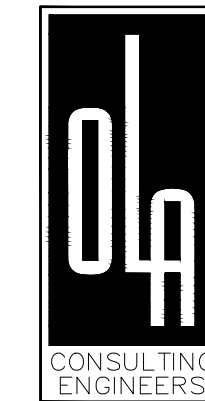
WARNER LIBRARY

CHILDREN'S LIBRARY  
ACOUSTICAL TILE CEILING  
AND PIPE INSULATION  
REPLACEMENT

ELECTRICAL SPECIFICATIONS

PROJECT NO.: NLAA0034.00 SCALE: AS NOTED

DRAWING NO.:  
**E-003**



1

## ELECTRICAL LOWER LEVEL DEMOLITION PLAN

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

### NOTES:

1.) COORDINATE REMOVAL AND REINSTALLATION OF ALL LOW VOLTAGE DEVICES INCLUDING AT A MINIMUM, SMOKE DETECTORS, SECURITY CAMERAS, WIRELESS ACCESS POINTS, MOTION SENSORS, AND ASSOCIATED CABLE/WIRING. ETC. WITH THE CLIENT'S LOW VOLTAGE VENDORS TO ACCOMMODATE THE REMOVAL AND REINSTALLATION OF THE CEILING. CONTACT GLOBAL SYSTEMS INTEGRATOR (SAL LOPES OR SIMON LOPES) AT 914-592-8372 FOR THE FIRE ALARM AND SECURITY SYSTEM/DEVICES AND CONTACT RYEBROOK SECURITY AT 914-934-7700 FOR THE CCTV SYSTEM/DEVICES. DEVICES SHALL BE CLEANED AND STORED DURING CONSTRUCTION AND WIRING/CABLES SAFE-OFF AND PROTECTED TO BE REUTILIZED. EXTEND WIRING/CABLES AS REQUIRED.

ISSUE NO.	ISSUE DATE	DESCRIPTION
3	03/04/2024	ISSUED FOR BID
2	11/22/2023	100% CDs - ISSUE FOR CLIENT REVIEW
1	08/22/2023	ISSUED FOR SCHEMATIC DESIGN

## WARNER LIBRARY

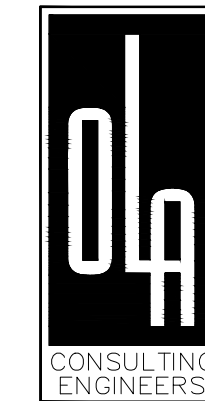
### CHILDREN'S LIBRARY ACOUSTICAL TILE CEILING AND PIPE INSULATION REPLACEMENT

## ELECTRICAL LOWER LEVEL DEMOLITION PLAN

PROJECT NO.: NLAA0034.00 SCALE: AS NOTED

DRAWING NO.:

E-101



### DESIGN INTENT - LIGHTING CONTROL SYSTEM

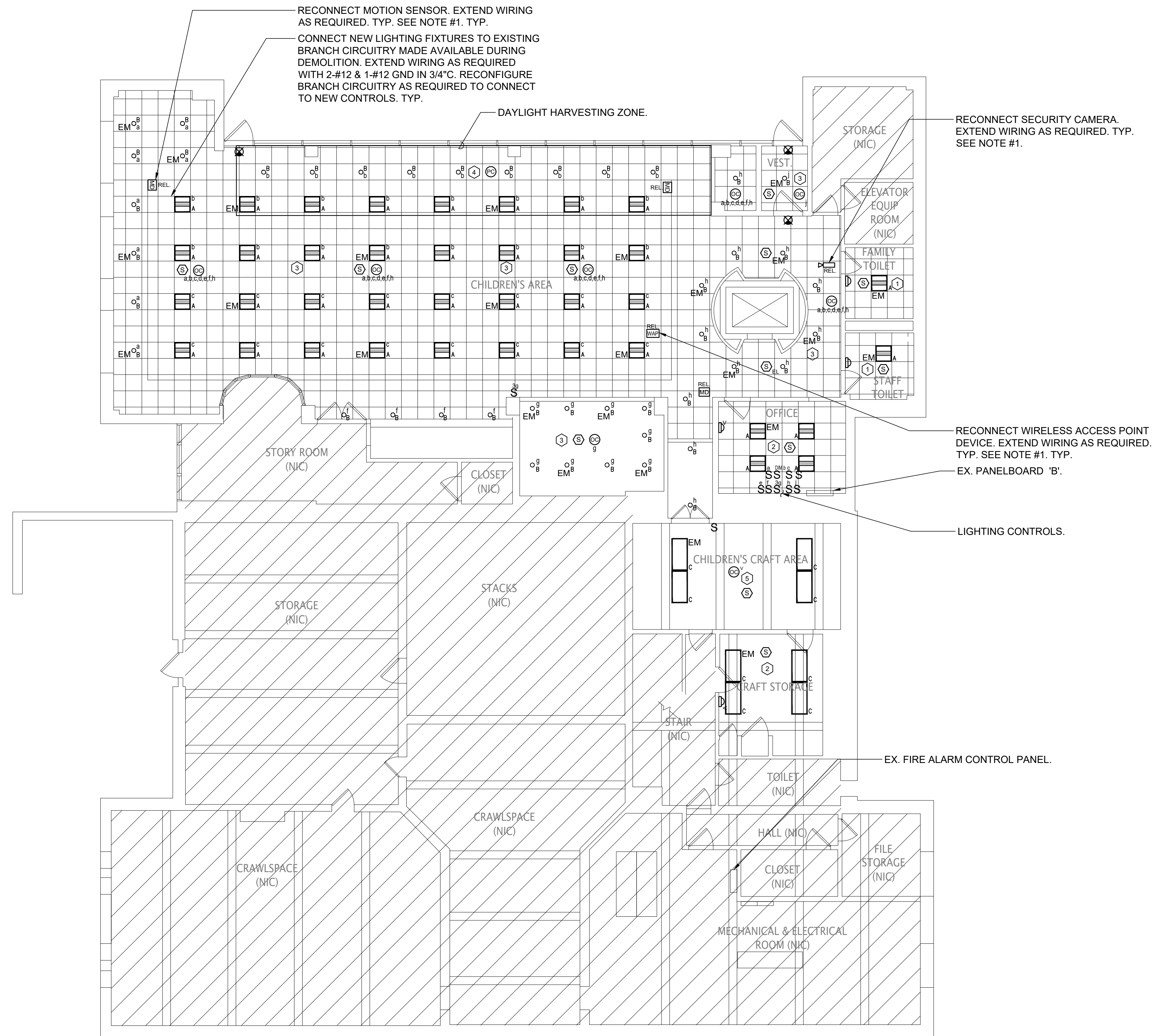
- 1.) LIGHTING CONTROL SYSTEM IS BASED ON N-LIGHT BY SENSOR SWITCH (FINN O'BRIEN (646) 352-2188) OR APPROVED EQUAL. (OTHER ACCEPTABLE MANUFACTURERS ARE LUTRON & COOPER LIGHTING.)
- 2.) LIGHTING CONTROL COMPONENTS SHOWN ARE FOR GENERAL DESIGN INTENT. ALL COMPONENTS AND WIRING ARE NOT SHOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY COMPONENTS, WIRING (LINE AND LOW VOLTAGE) AND PROGRAMMING FOR A FULLY OPERATIONAL SYSTEM. CONTRACTOR IS RESPONSIBLE FOR DELEGATED DESIGN OF THE SYSTEM BASED ON THE DESIGN INTENT INCLUDED ON THESE DRAWINGS.
- 3.) THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE LIGHTING CONTROLS WITH LIGHT FIXTURES.
- 4.) ALL LIGHT FIXTURE AND LIGHTING CONTROL SUBMITTALS SHALL BE SUBMITTED AT THE SAME TIME FOR APPROVAL.

### LIGHTING CONTROL LEGEND

- ① LINE VOLTAGE WALL SWITCH DUAL TECHNOLOGY OCCUPANCY SENSOR.
- ② LINE VOLTAGE WALL SWITCH DUAL TECHNOLOGY VACANCY SENSOR.
- ③ TIMECLOCK WITH DUAL TECHNOLOGY OCCUPANCY CONTROL AFTER HOURS WITH MANUAL OVERRIDE SWITCH.
- ④ DAYLIGHT HARVESTING
- ⑤ LINE VOLTAGE CEILING MOUNTED DUAL TECHNOLOGY VACANCY SENSOR WITH LINE VOLTAGE WALL SWITCH.

### NOTES:

1.) COORDINATE REMOVAL AND REINSTALLATION OF ALL LOW VOLTAGE DEVICES INCLUDING AT A MINIMUM, SMOKE DETECTORS, SECURITY CAMERAS, WIRELESS ACCESS POINTS, MOTION SENSORS, AND ASSOCIATED CABLE/WIRING, ETC. WITH THE CLIENT'S LOW VOLTAGE VENDORS TO ACCOMMODATE THE REMOVAL AND REINSTALLATION OF THE CEILING. CONTACT GLOBAL SYSTEMS INTEGRATOR (SAL LOPES OR SIMON LOPES) AT 914-592-8372 FOR THE FIRE ALARM AND SECURITY SYSTEM/DEVICES AND CONTACT RYEBROOK SECURITY AT 914-934-7700 FOR THE CCTV SYSTEM/DEVICES. DEVICES SHALL BE CLEANED AND STORED DURING CONSTRUCTION AND WIRING/CABLES SAFE-OFF AND PROTECTED TO BE REUTILIZED. EXTEND WIRING/CABLES AS REQUIRED.



1

**ELECTRICAL LOWER LEVEL NEW WORK CEILING PLAN**  
SCALE: 1/8" = 1'-0"

ISSUE NO.	ISSUE DATE	DESCRIPTION
3	03/04/2024	ISSUED FOR BID
2	11/22/2023	100% CDs - ISSUE FOR CLIENT REVIEW
1	08/22/2023	ISSUED FOR SCHEMATIC DESIGN

## WARNER LIBRARY

CHILDREN'S LIBRARY  
ACOUSTICAL TILE CEILING  
AND PIPE INSULATION  
REPLACEMENT

## ELECTRICAL LOWER LEVEL NEW WORK CEILING PLAN

PROJECT NO.: NLAA0034.00 SCALE: AS NOTED

DRAWING NO.:

E-201

LIGHTING FIXTURE SCHEDULE							
FIXTURE DESIGNATION	MANUFACTURER	CATALOG NUMBER	WATTAGE	LUMENS	VOLTS	MOUNTING	REMARKS
A	FOCAL POINT	FZR-22-FL-3500L-30K-UNV-G-WH	33W	3500	120V 277V	RECESSED	ZEPHYR 2' x 2' LED, 3000K
A-EM	FOCAL POINT	FZR-22-FL-3500L-30K-UNV-G-EM-WH	33W	3500	120V 277V	RECESSED	ZEPHYR 2' x 2' LED, 3000K, 10 WATT 120 EM BATTERY PACK
B	FOCAL POINT	FLC3D-RO-SW-900L-UNV-LC3-35K-WH	10W	919	120V 277V	RECESSED	ID+3.5", 3.5" DIAMETER LED DOWNLIGHT, 3500K
B-EM	FOCAL POINT	FLC3D-RO-SW-900L-UNV-EMR-LC3-35K-WH	10W	919	120V 277V	RECESSED	ID+3.5", 3.5" DIAMETER LED DOWNLIGHT, 3500K, 7 WATT EM BATTERY PACK WITH REMOTE TEST / INDICATOR LIGHT
C	FOCAL POINT	FAM2-24-ACR-5000L-30K-1C-UNV-C24-WH	38W	5000	120V 277V	SURFACE	2' x 4' LED FLAT LENS, PENDANT MOUNTED WITH 24" AIRCRAFT CABLE, 3000K
C-EM	FOCAL POINT	FAM2-24-ACR-5000L-30K-1C-UNV-C24-EM-WH	38W	5000	120V 277V	SURFACE	2' x 4' LED FLAT LENS, PENDANT MOUNTED WITH 24" AIRCRAFT CABLE, 3000K, 10 WATT EM BATTERY PACK WITH INTEGRAL TEST SWITCH
	LITHONIA LIGHTING	LQM-S-W-3-R-MVOLT-ELN-SD	LED	-	120V	SURFACE	LED EXIT SIGN, THERMOPLASTIC HOUSING WITH 90 MINUTES OF BATTERY BACKUP TIME, MIN., UNIVERSAL MOUNTING, RED LETTERS ON WHITE BACKGROUND AND NICKEL CADMIUM BATTERY. PROVIDE CHEVRONS AS INDICATED ON DRAWINGS.

**NOTES:**

- 1.) VERIFY ALL FIXTURE CATALOG NUMBERS FOR INTENDED APPLICATIONS WITH REQUIRED ACCESSORIES.
- 2.) LIGHT FIXTURES INDICATED AS EMERGENCY (EM) ON DRAWINGS SHALL CONTAIN AN EMERGENCY BACK-UP BATTERY WHERE POSSIBLE THE SHALL BE INTERNAL TO FIXTURE WITH A VISUAL INDICATING CHARGE LAMP AND TEST SWITCH. IF IT IS NOT POSSIBLE TO INSTALL THE EMERGENCY BATTERY IN THE FIXTURE, THE CONTRACTOR SHALL FURNISH & INSTALL A REMOTE EMERGENCY BATTERY. EACH BATTERY PACK SHALL BE CONNECTED SO THAT THE FIXTURE CAN BE SWITCHED UNDER NORMAL CONDITIONS AND IN THE EVENT OF A POWER OUTAGE, THE FIXTURE SHALL AUTOMATICALLY ILLUMINATE FOR 90 MINUTES WITH A 1200 LUMEN OUTPUT (TOTAL FROM FIXTURE), MINIMUM.
- 3.) ALL EXIT AND EMERGENCY FIXTURES SHALL BE FED FROM UNSWITCHED LEG OF ASSOCIATED LOCAL LIGHTING CIRCUITS.
- 4.) IN THE EVENT THE CONTRACTOR CHOOSES TO SUBSTITUTE LIGHT FIXTURES FOR THOSE THAT ARE SPECIFIED ON THE LIGHT FIXTURE SCHEDULE, THE CONTRACTOR SHALL SUBMIT POINT-TO-POINT PHOTOMETRIC CALCULATIONS FOR ALL AREAS WHERE THE SUBSTITUTED FIXTURES ARE INDICATED TO BE INSTALLED ON THE DRAWINGS. THESE CALCULATIONS SHALL BE SUBMITTED ALONG WITH THE LIGHT FIXTURE SHOP DRAWINGS.

**LIGHTING SYSTEM FUNCTIONAL TESTING/COMMISSIONING**

**I. FUNCTIONAL TESTING**

PRIOR TO PASSING FINAL INSPECTION, THE CONTRACTOR SHALL PROVIDE EVIDENCE TO THE BUILDING OWNER AND THE ENGINEER THAT THE LIGHTING CONTROL SYSTEMS HAVE BEEN TESTED TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S DOCUMENTS. FUNCTIONAL TESTING, FOR THE APPLICABLE CONTROL TYPE, SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

**1. OCCUPANT SENSOR CONTROLS**

WHERE OCCUPANT SENSOR CONTROLS ARE PROVIDED, THE FOLLOWING PROCEDURES SHALL BE PERFORMED:

- A. CERTIFY THAT THE OCCUPANT SENSOR HAS BEEN LOCATED AND AIMED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
- B. FOR PROJECTS WITH SEVEN OR FEWER OCCUPANT SENSORS, EACH SENSOR SHALL BE TESTED.
- C. FOR PROJECTS WITH MORE THAN SEVEN OCCUPANT SENSORS, TESTING SHALL BE DONE FOR EACH UNIQUE COMBINATION OF SENSOR TYPE AND SPACE GEOMETRY. WHERE MULTIPLES OF EACH UNIQUE COMBINATION OF SENSOR TYPE AND SPACE GEOMETRY ARE PROVIDED, NOT LESS THAN 10 PERCENT, BUT IN NO CASE LESS THAN ONE, OF EACH COMBINATION SHALL BE TESTED UNLESS THE BUILDING OFFICIAL OR DESIGN PROFESSIONAL REQUIRES A HIGHER PERCENTAGE TO BE TESTED. WHERE 30 PERCENT OR MORE OF THE TESTED CONTROLS FAIL, ALL REMAINING IDENTICAL COMBINATIONS SHALL BE TESTED.

FOR OCCUPANT SENSOR CONTROLS TO BE TESTED, VERIFY THE FOLLOWING:

- i. WHERE OCCUPANT SENSOR CONTROLS INCLUDE STATUS INDICATORS, VERIFY CORRECT OPERATION.
- ii. THE CONTROLLED LIGHTS TURN OFF OR DOWN TO THE PERMITTED LEVEL WITHIN THE REQUIRED TIME.
- iii. FOR AUTO-ON OCCUPANT SENSOR CONTROLS, THE LIGHTS TURN ON TO THE PERMITTED LEVEL WHEN AN OCCUPANT ENTERS THE SPACE.
- iv. FOR MANUAL-ON OCCUPANT SENSOR CONTROLS, THE LIGHTS TURN ON ONLY WHEN MANUALLY ACTIVATED.
- v. THE LIGHTS ARE NOT INCORRECTLY TURNED ON BY MOVEMENT IN ADJACENT AREAS OR BY HVAC OPERATION.

**2. TIME-SWITCH CONTROLS**

WHERE TIME-SWITCH CONTROLS ARE PROVIDED, THE FOLLOWING PROCEDURES SHALL BE PERFORMED:

- A. CONFIRM THAT THE TIME-SWITCH CONTROL IS PROGRAMMED WITH ACCURATE WEEKDAY, WEEKEND AND HOLIDAY SCHEDULES.
- B. PROVIDE DOCUMENTATION TO THE OWNER OF TIME-SWITCH CONTROLS PROGRAMMING INCLUDING WEEKDAY, WEEKEND, HOLIDAY SCHEDULES, AND SET-UP AND PREFERENCE PROGRAM SETTINGS.
- C. VERIFY THE CORRECT TIME AND DATE IN THE TIME SWITCH.
- D. VERIFY THAT ANY BATTERY BACK-UP IS INSTALLED AND ENERGIZED.
- E. VERIFY THAT THE OVERRIDE TIME LIMIT IS SET TO NOT MORE THAN 2 HOURS.
- F. SIMULATE OCCUPIED CONDITION. VERIFY AND DOCUMENT THE FOLLOWING:
  - i. ALL LIGHTS CAN BE TURNED ON AND OFF BY THEIR RESPECTIVE AREA CONTROL SWITCH.
  - ii. THE SWITCH ONLY OPERATES LIGHTING IN THE ENCLOSED SPACE IN WHICH THE SWITCH IS LOCATED.
- G. SIMULATE UNOCCUPIED CONDITION. VERIFY AND DOCUMENT THE FOLLOWING:
  - i. NONEXEMPT LIGHTING TURNS OFF.
  - ii. MANUAL OVERRIDE SWITCH ALLOWS ONLY THE LIGHTS IN THE ENCLOSED SPACE WHERE THE OVERRIDE SWITCH IS LOCATED TO TURN ON OR REMAIN ON UNTIL THE NEXT SCHEDULED SHUTOFF OCCURS.

**3. DAYLIGHT RESPONSIVE CONTROLS**

WHERE DAYLIGHT RESPONSIVE CONTROLS ARE PROVIDED, THE FOLLOWING SHALL BE VERIFIED:

- A. CONTROL DEVICES HAVE BEEN PROPERLY LOCATED, FIELD CALIBRATED AND SET FOR ACCURATE SET POINTS AND THRESHOLD LIGHT LEVELS.
- B. DAYLIGHT CONTROLLED LIGHTING LOADS ADJUST TO LIGHT LEVEL SET POINTS IN RESPONSE TO AVAILABLE DAYLIGHT.
- C. THE CALIBRATION ADJUSTMENT EQUIPMENT IS LOCATED FOR READILY ACCESS ONLY BY AUTHORIZED PERSONNEL.

**II. DOCUMENTATION REQUIREMENTS**

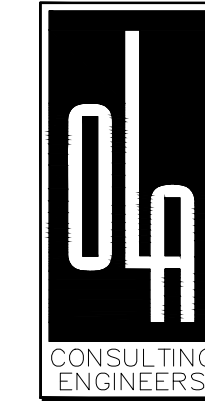
THE DOCUMENTS DESCRIBED IN THIS SECTION SHALL BE PROVIDED TO THE BUILDING OWNER OR OWNER'S AUTHORIZED AGENT WITHIN 60 DAYS OF THE DATE OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.

- A. DRAWINGS:
  - i. AS-BUILT CONSTRUCTION DOCUMENTS, SHOWING THE LOCATION AND CATALOG NUMBER OF EACH PIECE OF EQUIPMENT.
- B. MANUALS: AN OPERATING AND MAINTENANCE MANUAL SHALL BE PROVIDED AND INCLUDE THE FOLLOWING:
  - i. NAME AND ADDRESS OF NOT LESS THAN ONE SERVICE AGENCY FOR INSTALLED EQUIPMENT.
  - ii. A NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE, INCLUDING RECOMMENDED SET POINTS.
  - iii. SUBMITTAL DATA INDICATING ALL SELECTED OPTIONS FOR EACH PIECE OF LIGHTING EQUIPMENT AND LIGHTING CONTROLS.
  - iv. OPERATION AND MAINTENANCE MANUALS FOR EACH PIECE OF LIGHTING EQUIPMENT. REQUIRED ROUTINE MAINTENANCE ACTIONS, CLEANING AND RECOMMENDED RELAMPING SHALL BE CLEARLY IDENTIFIED.
  - v. A SCHEDULE FOR INSPECTING AND RECALIBRATING ALL LIGHTING CONTROLS.
- C. REPORT: A REPORT OF TEST RESULTS SHALL BE PROVIDED AND INCLUDE THE FOLLOWING.
  - i. RESULTS OF FUNCTIONAL PERFORMANCE TESTS.
  - ii. DISPOSITION OF DEFICIENCIES FOUND DURING TESTING, INCLUDING DETAILS OF CORRECTIVE MEASURES USED OR PROPOSED.



**333 Westchester Avenue  
White Plains, New York 10604  
914-741-1115**

OLA Consulting Engineers



50 Broadway,  
Hawthorne, NY 10532  
914.747.2800

8 West 38th Street,  
Suite 501  
New York, NY 10018  
646.849.4110

olace.com

ISSUE NO.	ISSUE DATE	DESCRIPTION
3	03/04/2024	ISSUED FOR BID
2	11/22/2023	100% CDS - ISSUE FOR CLIENT REVIEW
1	08/22/2023	ISSUED FOR SCHEMATIC DESIGN

**WARNER LIBRARY**

**CHILDREN'S LIBRARY  
ACOUSTICAL TILE CEILING  
AND PIPE INSULATION  
REPLACEMENT**

**ELECTRICAL LIGHTING  
FIXTURE SCHEDULE**

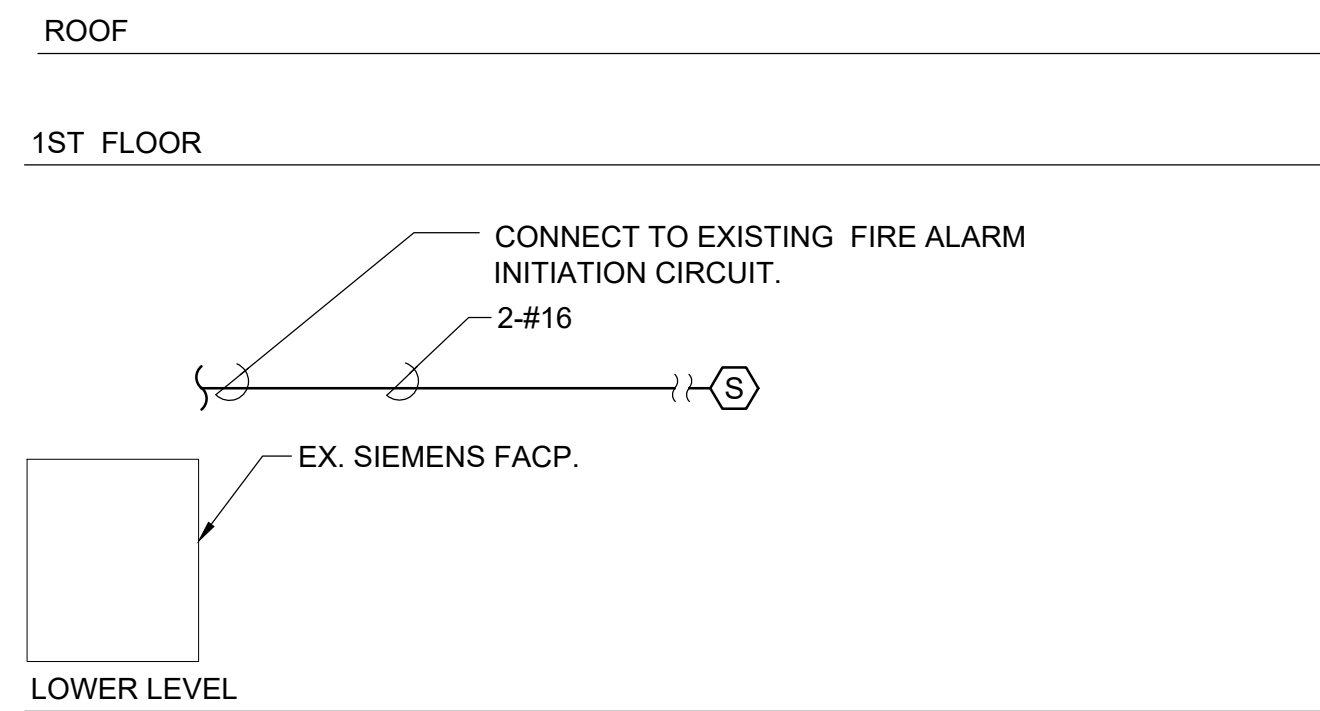
PROJECT NO.: NLAA0034.00 SCALE: AS NOTED

DRAWING NO.:

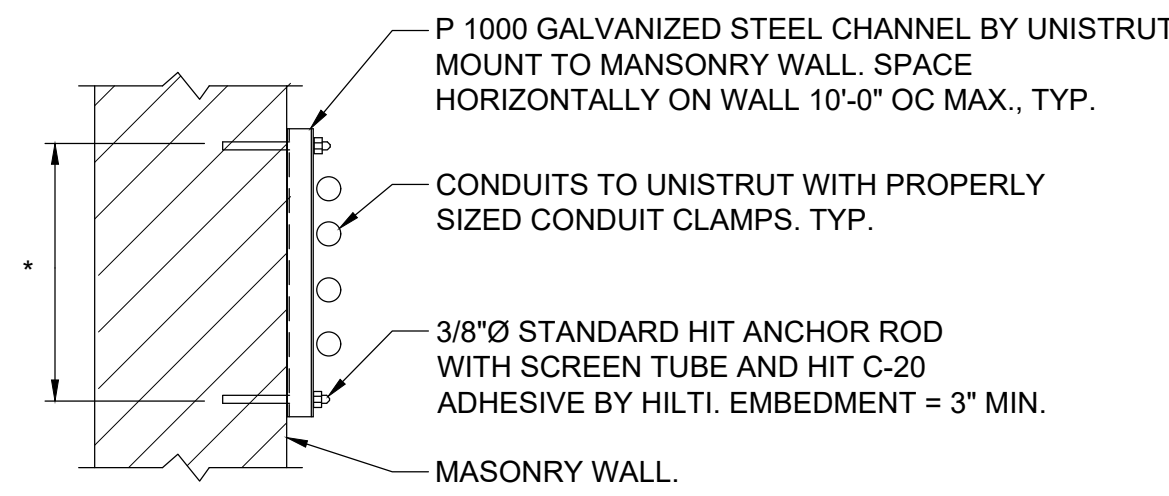
**E-601**

**RISER NOTES:**

1. THIS IS NOT A POINT-TO-POINT WIRING DIAGRAM. PRIOR TO STARTING ANY WORK, A WORKING POINT-TO-POINT WIRING DIAGRAM SHALL BE OBTAINED FROM FIRE ALARM SYSTEM VENDOR AND PERFORM ALL WORK IN ACCORDANCE WITH THAT DIAGRAM.
2. ELECTRICAL CONTRACTOR SHALL INCLUDE IN THE BASE BID ALL 120V CIRCUITS THAT ARE REQUIRED TO SUPPORT THE OPERATION OF THE FIRE ALARM SYSTEM. COORDINATE REQUIREMENTS WITH THE FIRE ALARM VENDOR.
3. QUANTITY OF STROBE BOOSTER POWER SUPPLY PANELS AND ASSOCIATED 120V CIRCUITS SHALL BE COORDINATED WITH SELECTED FIRE ALARM SYSTEM MANUFACTURER AND/OR FIRE ALARM VENDOR.
4. PROVIDE ALL NECESSARY WIRING, MODULES, COMPONENTS, EXTENDER CABINET, AND PROGRAMMING REQUIRED TO CONNECT NEW DEVICES TO EXISTING SYSTEM.
5. PROVIDE AS PART OF THE BASE CONTRACT ALL LABOR AND MATERIALS TO INSTALL FIVE (5) ADDITIONAL FIRE ALARM DEVICES DURING CONSTRUCTION. THE FIVE (5) FIRE ALARM DEVICES CAN BE BUT NOT LIMITED TO SMOKE DETECTOR, HEAT DETECTOR, ETC. INCLUDE ALL LABOR AND MATERIALS INCLUDING WIRE, BOXES, CONDUIT, TERMINATIONS, HARDWARE, SOFTWARE, PROGRAMMING AND TESTING.
6. ALL VISUAL ALARM DEVICES SHALL BE ADA COMPLIANT.
7. FIRE ALARM VENDOR IS GLOBAL SYSTEM INTEGRATORS AT 914-592-8372.

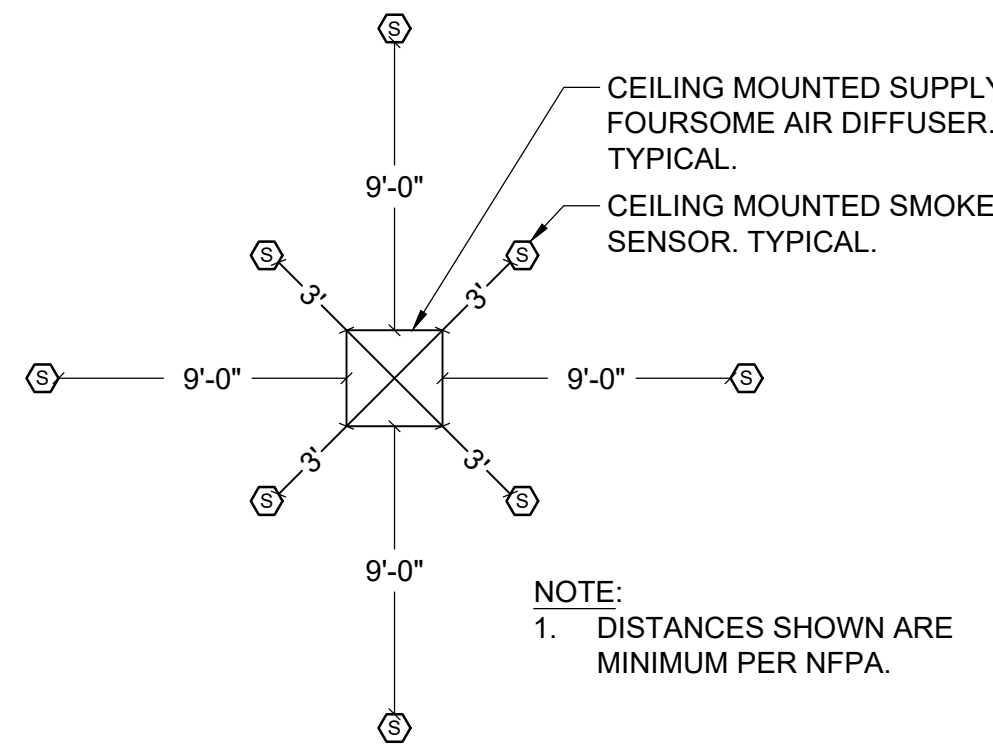


**8 FIRE ALARM PARTIAL RISER DIAGRAM**  
SCALE: NONE

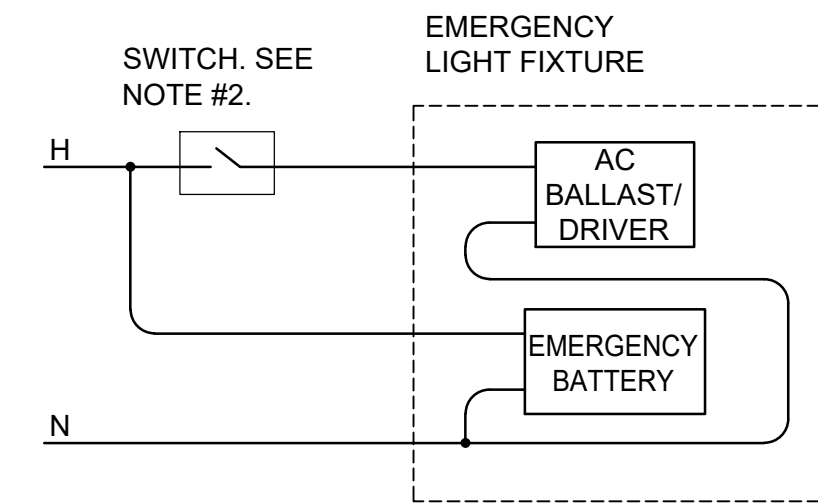


\* LENGTH AS REQUIRED FOR NUMBER OF CONDUITS

**6 TYPICAL CONDUIT SUPPORT ON MASONRY DETAIL**  
SCALE: NONE

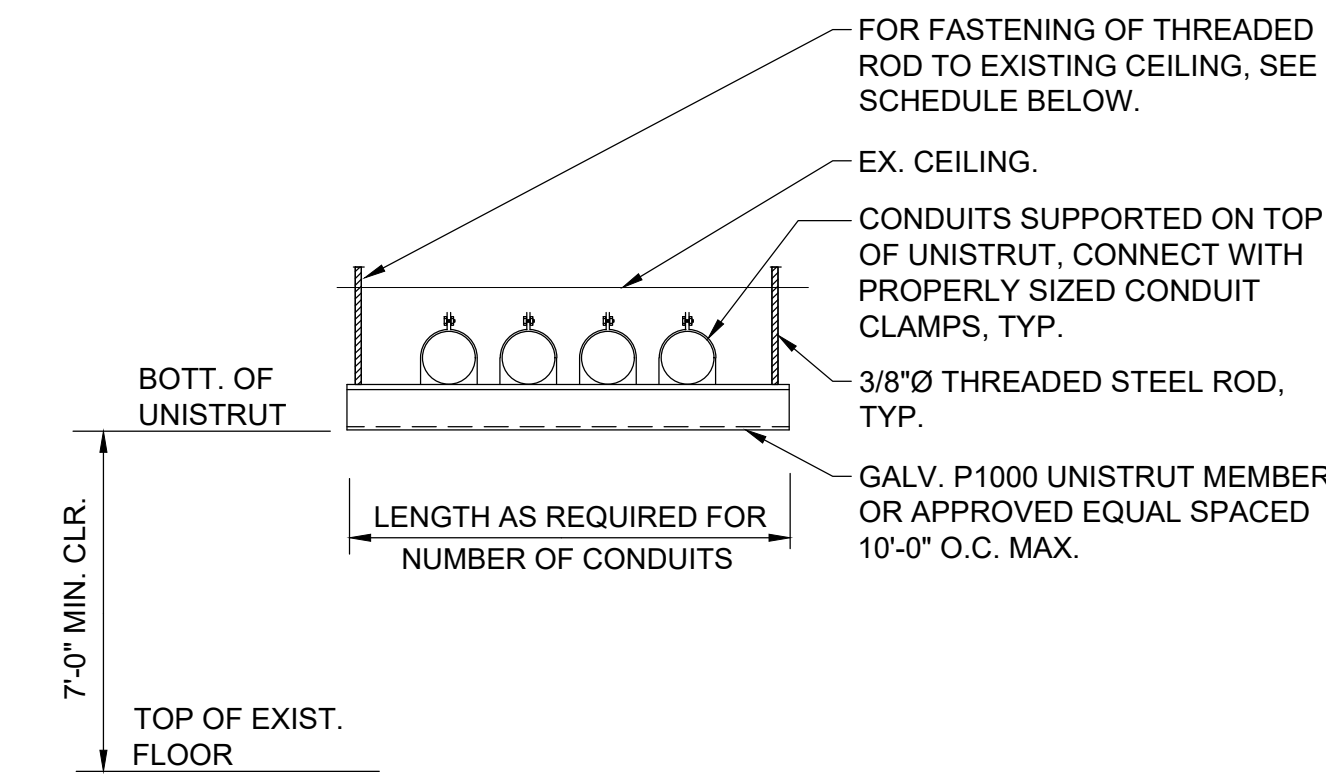


**5 CEILING MOUNTED SMOKE DETECTOR LOCATION WITH RESPECT TO AIR DIFFUSER**  
SCALE: NONE



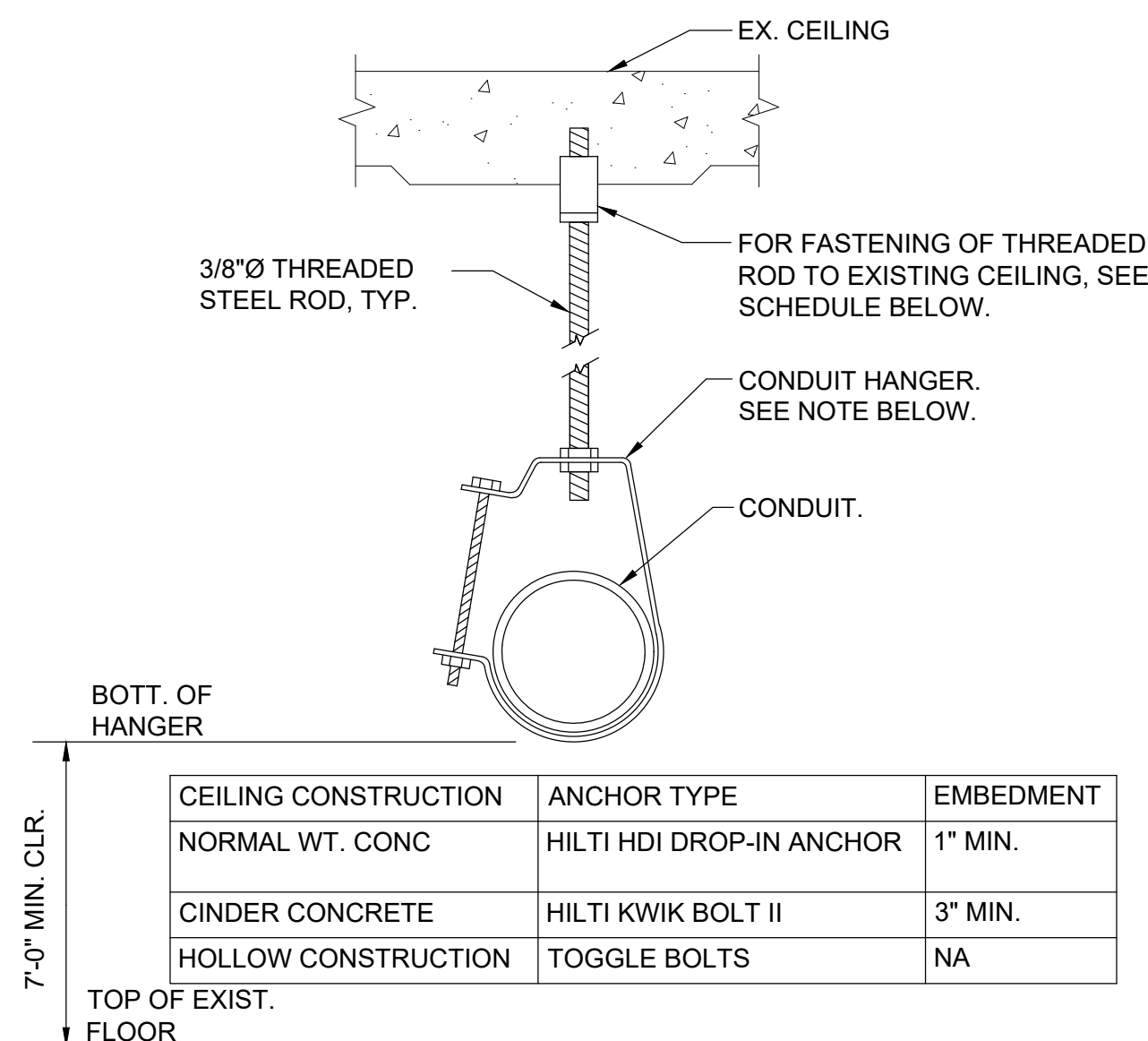
- NOTES:
1. THE CONNECTION TO THE LAMPS IS NOT SHOWN - FOLLOW MANUFACTURER WIRING DIAGRAMS.
  2. "SWITCH" REPRESENTS A SINGLE POLE SWITCH, A SET OF CONTACTS, A COMBINATION OF 3 WAY AND 4 WAY SWITCHES, ETC. SEE DRAWINGS FOR ACTUAL SWITCH CONFIGURATION.

**3 SWITCHED EMERGENCY FIXTURE WIRING DIAGRAM**  
SCALE: NONE



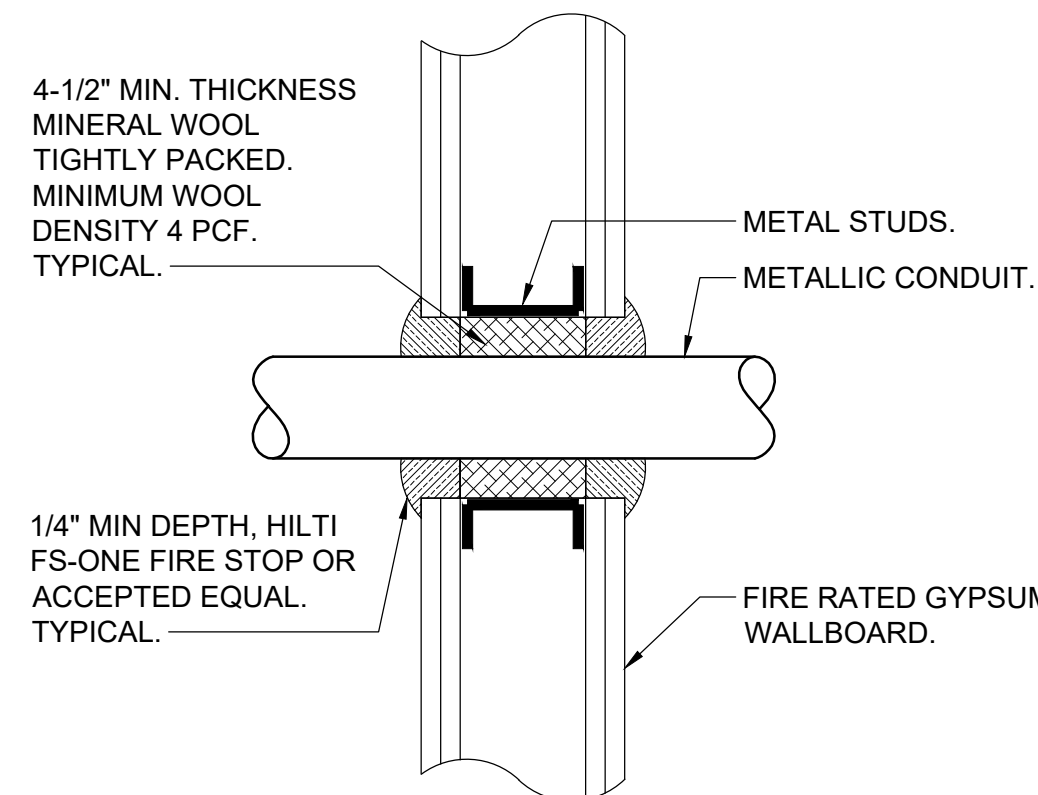
CEILING CONSTRUCTION	ANCHOR TYPE	EMBEDMENT
NORMAL WT. CONC	HILTI HDI DROP-IN ANCHOR	1" MIN.
CINDER CONCRETE	HILTI KWIK BOLT II	3" MIN.
HOLLOW CONSTRUCTION	TOGGLE BOLTS	NA

**2 TRAPESE SUPPORT DETAIL**  
SCALE: NONE

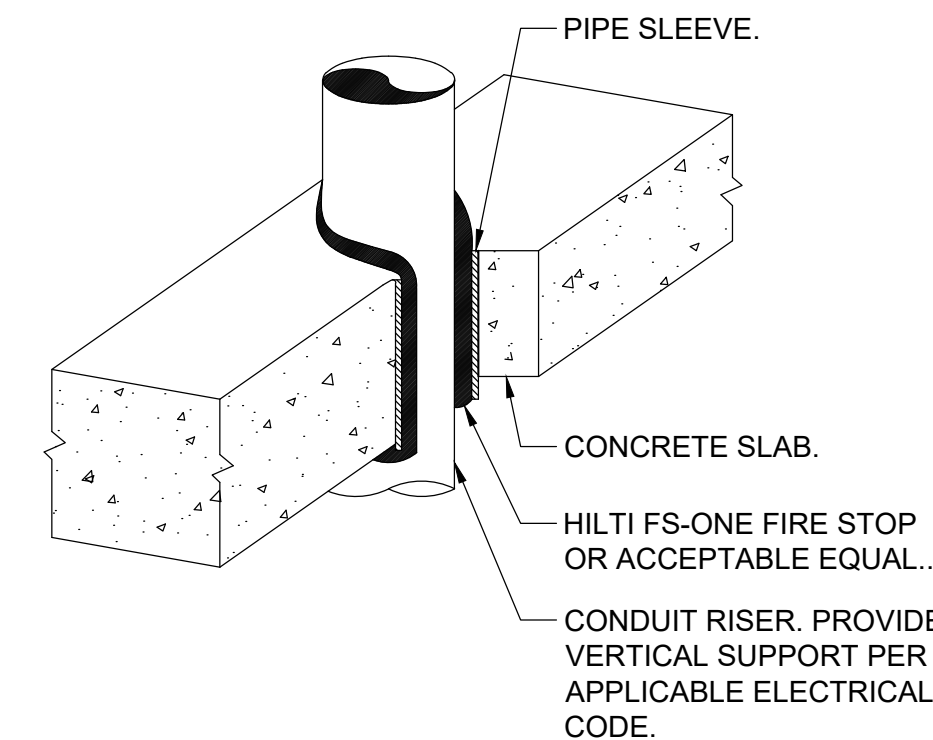


NOTE: CLEVIS HANGERS REQUIRED ON PIPING LARGER THAN 1". GENERAL PURPOSE HANGERS MAY BE USED ON PIPING 1" OR SMALLER.

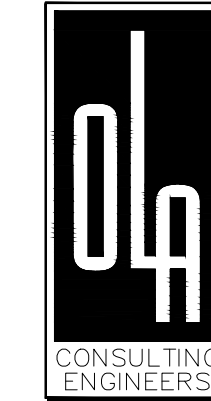
**7 SINGLE CONDUIT HANGER DETAIL**  
SCALE: NONE



**4 TYPICAL FIRE RATED GYPSUM WALL CONDUIT PENETRATION DETAIL**  
SCALE: NONE



**1 TYPICAL VERTICAL CONDUIT PENETRATION DETAIL**  
SCALE: NONE



ISSUE NO.	ISSUE DATE	DESCRIPTION
3	03/04/2024	ISSUED FOR BID
2	11/22/2023	100% CDs - ISSUE FOR CLIENT REVIEW
1	08/22/2023	ISSUED FOR SCHEMATIC DESIGN

**WARNER LIBRARY**

**CHILDREN'S LIBRARY  
ACOUSTICAL TILE CEILING  
AND PIPE INSULATION  
REPLACEMENT**

**ELECTRICAL DETAILS**

PROJECT NO.: NLAA0034.00 SCALE: AS NOTED

DRAWING NO.:

**E-701**