

PROJECT CONTACT LIST

- OWNER: ORCHARD VIEW SCHOOLS
- 35 S SHERIDAN DR MUSKEGON, MI - CONTACT:
- KAYLEIGH MACOMBER JACK TIMMER
- ELECTRICAL ENGINEER:
- BERGMANN
- 560 5TH ST NW, SUITE 305 GRAND RAPIDS, MI
- CONTACT: ANGELA ROBINSON - PHONE: 517.827.8726

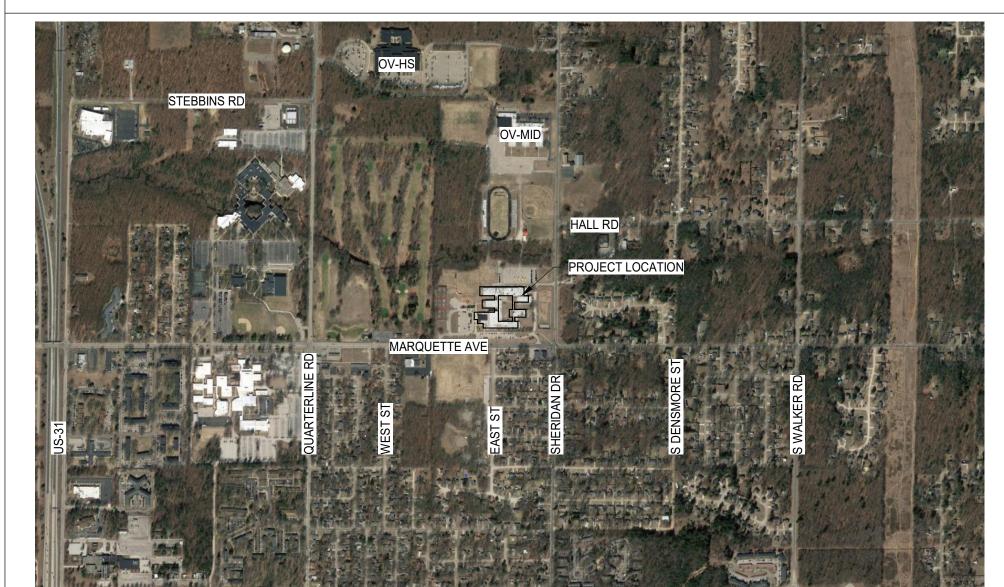
ARCHITECT: - BERGMANN

- 560 5TH ST NW, SUITE 305
- GRAND RAPIDS, MI - CONTACT: BUDDY HUYLER
- PHONE: 616.848.6969

MECHANICAL ENGINEER:

- ABILITY MEP LLC - 5210 WEST RIVER DR NE, SUITE C
- COMSTOCK PARK, MI
- CONTACT: CHRIS NOLAN - PHONE: 616.232.5817

PROJECT LOCATION MAP



AD101 A102 A141 A42⁻ 05 - MEC M001 M101 08 - ELE E001 ED101 E101

ŝ

ORCHARD VIEW SCHOOL DISTRICT CARDINAL ELEMENTARY CAFETERIA ACOUSTICAL TREATMENT

DRAWING INDEX

N	VERAL
	COVER SHEET
_	OOVERGHEET
C	CHITECTURAL
	GENERAL NOTES AND LEGENDS
	GENERAL REQUIREMENTS
	FIRST FLOOR AND CEILING DEMOLITION PLANS
	FIRST FLOOR AND CEILING PLANS
	FIRST FLOOR ENLARGED CEILINGS PLANS
	FIRST FLOOR FINISH PLAN
	INTERIOR ELEVATIONS
(
	GENERAL MECHANICAL INFORMATION
	FIRST FLOOR MECHANICAL PLANS
	CTRICAL
	LEGEND
	ELECTRICAL DEMOLITION PLAN
	LIGHTING PLANS

CODE REVIEW

PROJECT SCOPE INTERIOR RENOVATIONS TO EXISTING ELEMENTARY SCHOOL CAFETERIA, CONSISTING OF ACOUSTICAL TREATMENT, REVISED CEILINGS (INCLUDING LIGHTING AND MINOR MECHANICAL ADJUSTMENTS AS REQUIRED), PAINTING, AND OPTION FOR NEW FLOOR FINISH MATERIAL.

BARRIER FREE - ICC / ANSI-117

APPLICABLE BUILDING CODES

BUILDING CODE: 2015 MICHIGAN BUILDING CODE 2015 MICHIGAN REHABILITATION CODE BUILDING CODE (MI FIRE SAFETY STATE RULES): NFPA 11-2012 2015 MICHIGAN MECHANICAL CODE MECHANICAL CODE: ELECTRICAL CODE: 2015 NATIONAL ELECTRICAL CODE & MICHIGAN PART 8 ELECTRICAL RULES

ACCESSIBILITY:

BUILDING DATA

ALTERATIONS:

TOTAL BUILDING AREA: TOTAL RENOVATION AREA: 4347 SQ FT CONSTRUCTION TYPE =

142,550 SQ FT **II-B** NON-COMBUSTIBLE NON-SPRINKLERED LEVEL 1 (CHAPTER 7) NO CHANGE IN OCCUPANCY

USE AND OCCUPANCY

BUILDING IS CLASSIFIED AS "E" EDUCATIONAL AREAS OF RENOVATION ARE CLASSIFIED AS "A" ASSEMBLY MBC SECTION 303.3

INTERIOR FINISH

SECTION 803 INTERIOR FINISH AND TRIM: NON-SPRINKLERED TABLE 803.11 INTERIOR FINISHES AND TRIM SHALL MEET FLAME SPREAD, SMOKE DEVELOPED AND CLASS RATINGS AS REQUIRED FOR SPECIFIC USE AND AREA: A-2



560 5th St. NW // Suite 305 // Grand Rapids, MI 49504 616.827.4270

www.bergmannpc.com



2310 MARQUETTE AVE MUSKEGON, MI 49442

1/31/2023

DATE

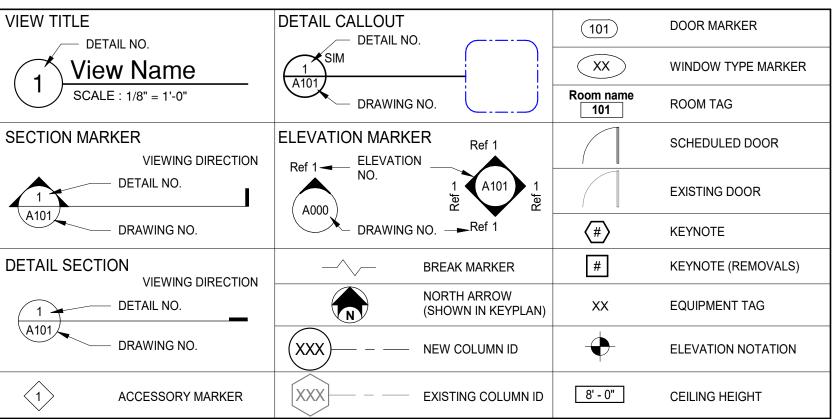
1/24/2023

1/31/2023

DESCRIPTION **OWNER REVIEW** BIDS



DRAWING SYMBOLS



MATERIAL INDICATORS

	UNDISTURBED EARTH	STEEL		FINISH WOOD
	GRAVEL OR CRUSHED STONE	RIGID INSULATION		BATT INSULATION
	CAST STONE	BRICK	\square	WOOD FRAMING (CONTINUOUS)
× × × 4	CONCRETE	PLYWOOD		WOOD BLOCKING (DISCONTIN.)
	CONCRETE MASONRY UNIT	SAND OR GYPSUM BOARD		EXISTING

WALL STYLES

EXISTING BRICK WALL	BRICK WALL	EXISTING WALL REMOVAL
EXISTING CMU WALL	CMU WALL	
EXISTING STUD WALL	STUD WALL	

ABBREVIATIONS

A/C ACP	AIR CONDITIONING ACOUSTICAL CEILING PANELS	ID INSUL	INTERIOR DIAMETER	т	TREAD
ACP	ACOUSTICAL CEILING PANELS ADJUSTABLE	INSUL	INTERIOR	T&G	TONGUE AND GROOVE
AFF	ABOVE FINISH FLOOR	INV	INVERT	TEMP	TEMPORARY
ALUM	ALUMINUM			TH	THRESHOLD
		JAN CL	JANITORS CLOSET	то	TOP OF
BD	BOARD	JT	JOINT	TR	TRANSITION
BLKG	BLOCKING	1		TYP	TYPICAL
BO	BOTTOM OF	L	LONG		
		LAM	LAMINATE	UNO	UNLESS NOTED OTHERWISE
CG	CORNER GUARD	LAV	LAVATORY	UPH	UPHOLSTERY
CJ	CONTROL JOINT	LLV	LONG LEG VERTICAL	UR	URINAL
CL	CENTER LINE	LLV			ORINAL
CLG	CEILING	LTL	LINTEL	VAR	VARIES
CLR	CLEAR	LVR	LOUVER	VB	VINYL BASE
CM	CONSTRUCTION MANAGER	LVT	LUXURY VINYL TILE	VCT	VINYL COMPOSITION TILE
CMT	CERAMIC MOSAIC TILE			VERT	VERTICAL
CMU	CONCRETE MASONRY UNIT	MAX	MAXIMUM	VEST	VESTIBULE
COL	COLUMN	MECH	MECHANICAL	VIF	VERIFY IN FIELD
CONC	CONCRETE	MEZZ	MEZZANINE	VWC	VINYL WALL COVERING
CONC		MEZZ			
			MANUFACTURER		
CT		MIN	MINIMUM	W	WIDE
CTB	CERAMIC TILE BASE	MO	MASONRY OPENING	W/	WITH
		MTL	METAL	W/O	WITHOUT
D	DEEP	1		WB	WOOD BASE
DF	DRINKING FOUNTAIN	NIC	NOT IN CONTRACT	WC	WATER CLOSET
DIA	DIAMETER	NTS	NOT TO SCALE	WCV	WALL COVERING
DIA	DIMENSION			WD	WOOD
DWG	DRAWING	00	ON CENTER	WDT	
		OPP	OPPOSITE	WF	WOOD FLOORING
EA	EACH	1		WOM	WALKOFF MAT
EIFS	EXTERIOR INSULATION FINISH	Р	PAINTED	WP	WATERPROOF
	SYSTEM	РВ	PORCELAIN BASE	WT	WALL TILE
ELEC	ELECTRICAL	PCC	PRE CAST CONCRETE		
ELEV	ELEVATIONS	PCF	POUNDS PER CUBIC FOOT		
EXF	EPOXY FLOORING				
		PL	PLATE		
EXP	EXPANSION	PLF	POUNDS PER LINEAR FOOT		
EXP BT	EXPANSION BOLT	PLM	PLASTIC LAMINATE		
EXT	EXTERIOR	PP	PLASTIC PANELING		
		PSF	POUNDS PER SQUARE FOOT		
F	FABRIC	PSI	POUNDS PER SQUARE INCH		
FCO	FLOOR CLEANOUT	PT	PORCELAIN TILE		
FD	FLOOR DRAIN	PTWD	(PRESSURE)		
FE	FIRE EXTINGUISHER		(PRESSURE) PRESERVATIVE-TREATED WOOD		
		1	I NEGENVATIVE-INLATED WOOD		
FEC		0.7			
FFE	FINISH FLOOR ELEVATION	QT	QUARRY TILE		
FLG	FLOORING	1			
FLR	FLOOR	R	RISER		
FR	FIRE RATED	RB	RUBBER BASE		
FRP	FIBER REINFORCED PLASTIC	RCP	REFLECTED CEILING PLAN		
FT	FLOOR TILE	RD	ROOF DRAIN		
FTG	FOOTING	REBAR	REINFORCED STEEL BARS		
110					
~ .	0.000	REINF	REINFORCING		
GA	GAUGE	RESIL	RESILIENT		
GALV	GLAVANIZED	RF	RESILIENT FLOORING		
GC	GENERAL CONTRACTOR	RM	ROOM		
		RO	ROUGH OPENING		
н	HIGH	RTU	ROOF TOP UNIT		
HB	HOSE BIBB				
		00			
HC	HOLLOW CORE	SC	SEALED CONCRETE		
HDR	HEADER	SIM	SIMILAR		
HDWR	HARDWARE	SMS	SHEET METAL SCREW		
HM	HOLLOW METAL	SPEC	SPECIFICATION		
HORIZ	HORIZONTAL	SS	SOLID SURFACE		
HPC	HIGH PERFORMANCE COATING	SST	STAINLESS STEEL		
HVAC	HEATING/VENTILATION/AIR	STC	SOUND TRANSMISSION CLASS		
IIVAU	CONDITIONING				
		STD	STANDARD		
HW	HOT WATER	STL	STEEL		
HWT	HOT WATER TANK	STRUCT	STRUCTURAL		
				1	
		SYS	SYSTEM		

GENERAL NOTES:

<u>GENERAL</u>

- SYSTEM.
- 2. CONTRACTOR RESPONSIBILITIES: ACCESS AND WORK.

- REQUIREMENTS.
- UNITS, AND RETEST.
- THE ARCHITECT IMMEDIATELY.
- 4. CONTRACT DOCUMENTS: DOOR HARDWARE AND FENESTRATION INFORMATION.
- ADDENDUM.

FIELD CONDITIONS

- DOCUMENTS AND REPORTS PROVIDED BY OTHERS.
- APPROPRIATE MEASURES IF THEY SUSPECT THE PRESENCE OF LEAD.

FINISHES

- OPENINGS.
- B. PRODUCTS:

- CONDITION.

C. EXECUTION:

- MANUFACTURER'S WARRANTIES.
- CLEARANCES.
- ENFORCED BY THE AUTHORITY HAVING JURISDICTION.
- E. REQUIRED DOCUMENTATION: 1. SAFETY DATA SHEETS.
- F. PROTECT ADJACENT SURFACES DURING WORK.
- CODE REQUIREMENTS.
- AVOID RAISING THE NAP OF PAPER.
- BEFORE PAINTING IS STARTED.
- OF THE FINISH HAS BEEN DAMAGED OR IS UNSATISFACTORY.
- INSTALLATION INSTRUCTIONS.
- WRITTEN INSTALLATION INSTRUCTIONS.
- O. FLOOR MATERIAL TRANSITIONS SHALL OCCUR BELOW THE DOOR.

ALL GENERAL NOTES PERTAIN TO ALL ARCHITECTURAL (A-SERIES) DRAWINGS IN THIS SET

1. DEFINITIONS: "PROVIDE" MEANS FURNISH AND INSTALL. SUPPLY LABOR AND MATERIALS TO RESULT IN A FINISHED AND/OR OPERABLE

A. MATERIALS, CONSTRUCTION METHODS INCLUDING BUT NOT LIMITED TO LAYOUT, COORDINATION, SCHEDULE AND CONSTRUCTION SITE

B. DAILY CLEANING: KEEP SITE FREE FROM WASTE, RUBBISH, AND DEBRIS. REMOVE DAILY. WHEN WORK IS COMPLETE, LEAVE THE PREMISES BROOM CLEAN AND CLEAN FINISHED SURFACES, FIXTURES, GLASS, STOREFRONT, ETC.

C. FINAL CLEANING, PRIOR TO PUNCHLIST INSPECTION BROOM CLEAN ALL HARD SURFACE FLOORS, VACUUM ALL CARPETING AND WIPE DOWN ALL HORIZONTAL AND GLASS SURFACES PROVIDING A DUST FREE SURFACE.

D. TEMPORARY PROTECTION IS REQUIRED TO MAINTAIN ONGOING BUILDING OPERATIONS, EXITING PATHS, DUST CONTROL AND OCCUPANT SAFETY, IDENTIFY THE REQUIREMENTS FOR TEMPORARY PROTECTION AND PROJECT PHASING, COORDINATE WITH OWNER FOR OTHER

E. COORDINATE STARTUP AND ADJUSTING OF EQUIPMENT AND OPERATING COMPONENTS. START EQUIPMENT AND OPERATING COMPONENTS AND TEST TO CONFIRM PROPER OPERATION AND CONTROL. REMOVE MALFUNCTIONING UNITS, REPLACE WITH NEW

F. CLOSEOUT DOCUMENTS, CERTIFICATE OF RELEASE FROM THE AUTHORITY OF JURISDICTION AND INSURANCE FOR CONTINUING COVERAGE, WARRANTIES, TEST & INSPECTION RESULTS AND OPERATION, EMERGENCY & MAINTENANCE MANUALS.

3. EXISTING CONDITIONS: REVIEW EXISTING CONDITIONS AND DIMENSIONS PRIOR TO COMMENCING WORK AND REPORT DISCREPANCIES TO

A. PLANS, ELEVATIONS, SECTIONS, DETAILS AND SCHEDULES ARE COMPLEMENTARY. PLAN DRAWINGS WILL TAKE PRECEDENCE OVER ELEVATION, SECTION AND DETAILS DRAWINGS IN ANY CONFLICTS OF HORIZONTAL DIMENSIONS. DETAIL PLAN DRAWINGS WILL TAKE PRECEDENCE OVER LARGER SCALE PLANS IN ANY CONFLICTS WITH HORIZONTAL DIMENSIONS. WALL AND BUILDING SECTIONS WILL TAKE PRECEDENCE OVER PLAN DRAWING AND DETAILS IN ANY CONFLICTS WITH VERTICAL DIMENSIONS. DETAILS AND WALL SECTIONS WILL TAKE PRECEDENCE OVER ELEVATION AND PLAN DRAWINGS IN ANY CONFLICTS WITH MATERIAL DESCRIPTION. SCHEDULES WILL TAKE PRECEDENCE OVER OTHER ARCHITECTURAL DRAWINGS IN AND CONFLICTS WITH WALL, FLOOR AND CEILING FINISHES AND DOOR,

B. DRAWINGS PREPARED BY THE ARCHITECT ARE INSTRUMENTS OF THE ARCHITECT'S SERVICE FOR USE SOLELY WITH RESPECT TO THIS PROJECT AND, UNLESS OTHERWISE PROVIDED, BERGMANN SHALL BE DEEMED THE AUTHOR OF THESE DOCUMENTS AND RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS, INCLUDING THE COPYRIGHT.

C. WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR

1. REPAIR: EXISTING SURFACES TO REMAIN IMPACTED BY DEMOLITION TO MATCH EXISTING ADJACENT SURFACES.

2. DISCREPANCIES: NOTIFY ARCHITECT OF EXISTING DAMAGED OR DETERIORATED BUILDING ELEMENTS REVEALED DURING DEMOLITION OR CONSTRUCTION PRIOR TO PROCEEDING WITH ADDITIONAL WORK IN THE AREA.

3. HAZARDOUS MATERIALS: A PRE-DEMOLITION ASBESTOS SURVEY IS REQUIRED PRIOR TO DEMOLITION OF SUSPECT BUILDING MATERIALS IN ACCORDANCE WITH OSHA 29 DFR 1926.1101, AND USEPA 40 CRF 61.145. ALL SUSPECT ASBESTOS CONTAINING MATERIALS INCLUDING THERMAL SYSTEMS INSULATIONS AND SURFACING MATERIALS (PACM) UNLESS PROVEN OTHERWISE BY APPROPRIATE BULK SAMPLING AND LABORATORY ANALYSIS CONDUCTED BY APPROVED LICENSED COMPANIES AND PERSONNEL. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH ALL REGULATIONS. THE OWNER IS REQUIRED TO PROVIDE COPIES OF ANY ASBESTOS SURVEYS OR ASBESTOS OPERATIONS AND MAINTENANCE PLANS THEY HAVE ON FILE AT THE REQUEST OF THE CONTRACTOR. A COMPLETE ASBETOS SURVEY FOR THE PROPOSED WORK TO BE PERFORMED IS THE RESPONSIBILITY OF THE BUILDING OWNER. BERGMANN DOES NOT WARRANT THE COMPLETENESS OF NO EXEMPTION TO THE REQUIREMENT TO CONDUCT AN ASBESTOS SURVEY SHALL EXEMPT ANY PERSON, ASBESTOS CONTRACTOR, PROPERTY OWNER OR BUSINESS ENTITY FROM THE INSPECTION OR ASBESTOS SURVEY REQUIREMENTS OF EPA AND OSHA.

SAFETY: FOLLOW THE OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR 1926.62, LEAD EXPOSURE IN CONSTRUCTION REGULATION. MATERIALS HAVING A CONCENTRATION EQUAL OR GREATER THAN 0.5% BY WEIGHT IN LEAD ARE CONSIDERED TO BE LEAD BASED. HOWEVER, OSHA CONSIDERS ANY AMOUNT OF LEAD ENCOUNTERED DURING CONSTRUCTION TO BE OF CONCERN. THE REGULATION STATES THAT THE EMPLOYER SHALL ASSURE THAT NO EMPLOYEE IS EXPOSED TO LEAD AT CONCENTRATIONS GREATER THAN FIFTY MICROGRAMS PER CUBIC METER OF AIR (50 MG/M^3) AVERAGED OVER AN 8-HOUR PERIOD. CONTRACTORS SHALL DETERMINE AND TAKE

A. GENERAL: FINISHED FLOORS EXTEND INTO TOE SPACES, UNDER CASEWORK ON LAB PROJECTS, CLOSETS, DOOR REVEALS AND SIMILAR

A. INSTALL MATERIALS USING MANUFACTURER'S APPROVED ADHESIVES AND METHODS, U.N.O.

B. PAINT DESIGNATIONS INDICATE COLOR ONLY, REFER TO SPECIFICATION FOR FINISH TYPE.

C. PROVIDE SELF LEVELING TROWELABLE UNDERLAYMENT WHERE REQUIRED TO OBTAIN FINISH MANUFACTURER'S REQUIRED SUBFLOOR

D. PROVIDE THE REQUIRED TRANSITIONS BASED ON TYPES IDENTIFIED ON DRAWINGS AT EACH FINISH TRANSITION LOCATION.

A. ADHERE TO MATERIAL OR SYSTEM MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND TOLERANCES. ANY VARIATIONS FROM WRITTEN INSTALLATION AND INSTRUCTIONS MUST RECEIVE WRITTEN APPROVAL FROM THE MANUFACTURER AND MAINTAIN

B. PRIOR TO STARTING THE INSTALLATION OF A MATERIAL OR SYSTEM, VERIFY THE SUBSTRATE IS WITHIN THE MANUFACTURER'S REQUIRED TOLERANCES AND REQUIRED CLEARANCES ARE PROVIDED. NOTIFY THE CONSTRUCTION MANAGER OR GENERAL CONTRACTOR AND DEIGN PROFESSIONAL IN WRITING WHEN THE SUBSTRATE IS NOT WITHIN MANUFACTURER'S TOLERANCE OR REQUIRED CLEARANCES ARE NOT PROVIDED. PROCEEDING WITH INSTALLATION SIGNIFIES ACCEPTANCE OF THE SUBSTRATE AND

C. PROVIDE MANUFACTURER'S REQUIRED ENVIRONMENTAL TESTS FOR MOISTURE, VAPOR DRIVE, RELATIVE HUMIDITY AND TEMPERATURE TO VERIFY THESE ARE WITHIN THE MATERIAL MANUFACTURER'S TOLERANCE PRIOR TO INSTALLING MATERIALS.

D. MATERIAL AND INSTALLATION SHALL CONFORM WITH LOCAL, STATE AND NATIONAL BUILDING CODES AND CONSTRUCTION STANDARDS

2. PROVIDE SAMPLES WHEN SPECIFICALLY REQUESTED IN THESE DOCUMENTS.

3. PROVIDE SHOP DRAWINGS OF MATERIALS AND SYSTEMS, WHICH WILL BE BUILT INTO AND MUST BE COORDINATED WITH OTHER CONSTRUCTION. SHOP DRAWINGS SHALL CONSIST OF PLAN, ELEVATION, SECTION VIEWS AND DETAILS AS REQUIRED TO COMMUNICATE FINAL APPEARANCE AND CONNECTION TO ADJOINING CONSTRUCTION.

G. REMOVE ADHESIVE OR PAINT SPOTS FROM FINISHED FLOORS, WALLS, GLASS OR OTHER SURFACES. FINISHES TO MEET OR EXCEED

H. FILL MINOR DRYWALL IRREGULARITIES WITH SPACKLING COMPOUND AND SAND TO A SMOOTH LEVEL SURFACE. EXERCISE CARE TO

I. DO NOT PERFORM PAINTING AND OTHER FINISHING WORK UNDER CONDITIONS UNSUITABLE FOR EXECUTION OF PAINTING WORK. AIR SHALL BE FREE FROM DUST AND DIRT TO PREVENT LODGING OF FOREIGN MATTER IN FRESH PAINT. FLOORS TO BE BROOM CLEAN

J. EDGES OF PAINT ADJOINING OTHER COLORS OR MATERIALS TO BE SHARP AND CLEAN WITHOUT OVERLAP.

K. WHENEVER NECESSARY TO OBTAIN REQUIRED RESULTS, REFINISH AN ENTIRE WALL RATHER THAN SPOT FINISHING WHERE A PORTION

L. WHEN INSTALLING CARPET FOLLOW THE CARPET AND RUG INSTITUTE METHODS OF INSTALLATION AND MANUFACTURERS WRITTEN

M. WHEN INSTALLING TILE FOLLOW THE TILE COUNCIL OF NORTH AMERICA'S INSTALLATION SPECIFICATIONS AND MANUFACTURERS

N. CENTER FLOOR MATERIAL TRANSITIONS ON DOOR ABOVE.



560 5th St. NW Suite 305 Grand Rapids, MI 49504 www.bergmannpc.com

ORCHARD VIEW SCHOOL DISTRICT CARDINAL **ELEMENTARY** CAFETERIA ACOUSTICAL TREATMENT

2310 MARQUETTE AVE MUSKEGON, MI 49442

Date Revised 1-24-2023

1-31-2023

Description OWNER REVIEW

BIDS

Copyright © Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.

Project Manager	Discipline Lead
D HOLTROP	B HUYLER
Designer	Reviewer
E POST	R KEUNEKE
Date Issued 1/31/2023	Project Number 22013310A

Sheet Name

GENERAL NOTES AND LEGENDS

GENERAL REQUIREMENTS:

ALTERNATES:

- A. ALTERNATE: AN AMOUNT PROPOSED BY BIDDERS AND STATED ON THE BID FORM FOR CERTAIN WORK DEFINED IN THE BIDDING REQUIREMENTS THAT MAY BE ADDED TO OR DEDUCTED FROM THE BASE BID AMOUNT IF THE OWNER DECIDES TO ACCEPT A CORRESPONDING CHANGE EITHER IN THE AMOUNT OF CONSTRUCTION TO BE COMPLETED OR IN THE PRODUCTS, MATERIALS, EQUIPMENT, SYSTEMS, OR INSTALLATION METHODS DESCRIBED IN THE CONTRACT DOCUMENTS.
- B. INCLUDE AS PART OF EACH ALTERNATE, MISCELLANEOUS DEVICES, ACCESSORY OBJECTS, AND SIMILAR ITEMS INCIDENTAL TO OR REQUIRED FOR A COMPLETE INSTALLATION WHETHER INDICATED AS PART OF ALTERNATE. EXECUTE ACCEPTED ALTERNATES UNDER THE SAME CONDITIONS AS OTHER WORK OF THE CONTRACT.
- C. PROVIDE ALTERNATE PRICING AS FOLLOWS:
- 1. ALTERNATE NO 1: BASE BID, NO ACOUSTIAL WALL PANELS. ALTERNATE BID, PROVIDE ACOUSTICAL WALL PANELS AS SHOWN. 2. ALTERNATE NO 2: BASE BID, EXISTING FLOORING AND WALL BASE TO REMAIN . ALTERNATE BID, REMOVE EXISTING VCT FLOORING AND RUBBER BASE; PROVIDE NEW FLOORING AND WALL BASE AS SHOWN.

SUBSTITUTION PROCEDURES:

- A. SUBSTITUTIONS FOR CAUSE: CHANGES PROPOSED BY CONTRACTOR THAT ARE REQUIRED DUE TO CHANGED PROJECT CONDITIONS, SUCH AS UNAVAILABILITY OF PRODUCT, REGULATORY CHANGES, OR UNAVAILABILITY OF REQUIRED WARRANTY TERMS.
- B. SUBSTITUTIONS FOR CONVENIENCE: CHANGES PROPOSED BY CONTRACTOR OR OWNER THAT ARE NOT REQUIRED IN ORDER TO MEET OTHER PROJECT REQUIREMENTS BUT MAY OFFER ADVANTAGE TO CONTRACTOR OR OWNER. SUBSTITUTIONS FOR CONVENIENCE ARE ALLOWED ONLY BY APPROVAL OF THE OWNER OR OWNER'S AGENT.
- C. SUBMIT REQUEST FOR CONSIDERATION. IDENTIFY PRODUCT OR FABRICATION OR INSTALLATION METHOD TO BE REPLACED. INCLUDE PRODUCT, MATERIAL OR SYSTEM NAME AND AFFECTED DRAWING NUMBERS AND TITLES.
- D. EXECUTE ACCEPTED SUBSTITUTIONS UNDER THE SAME CONDITIONS AS OTHER WORK OF THE CONTRACT.
- E. DOCUMENTATION: SHOW COMPLIANCE WITH REQUIREMENTS FOR SUBSTITUTIONS AND THE FOLLOWING, AS APPLICABLE 1. COST INFORMATION, INCLUDING A PROPOSAL OF CHANGE, IF ANY, IN THE CONTRACT SUM.
- 2. CONTRACTOR'S CERTIFICATION THAT PROPOSED SUBSTITUTION COMPLIES WITH REQUIREMENTS IN THE CONTRACT DOCUMENTS, EXCEPT AS INDICATED IN SUBSTITUTION REQUEST, IS COMPATIBLE WITH RELATED MATERIALS AND IS APPROPRIATE FOR APPLICATIONS INDICATED.
- 3. STATEMENT INDICATING WHY SPECIFIED PRODUCT OR FABRICATION, OR INSTALLATION METHOD CANNOT BE PROVIDED, IF APPLICABLE.
- 4. COORDINATION OF INFORMATION, INCLUDING A LIST OF CHANGES OR REVISIONS NEEDED TO OTHER PARTS OF THE WORK AND TO CONSTRUCTION PERFORMED BY OWNER AND SEPARATE CONTRACTORS THAT WILL BE NECESSARY TO ACCOMMODATE PROPOSED SUBSTITUTION.
- 5. PRODUCT DATA, INCLUDING DRAWINGS AND DESCRIPTIONS OF PRODUCTS AND FABRICATION AND INSTALLATION PROCEDURES. INCLUDE DETAILED COMPARISON OF SIGNIFICANT QUALITIES OF PROPOSED SUBSTITUTIONS WITH THOSE OF THE WORK SPECIFIED. SIGNIFICANT QUALITIES MAY INCLUDE ATTRIBUTES, SUCH AS PERFORMANCE, WEIGHT, SIZE, DURABILITY, VISUAL EFFECT, SUSTAINABLE DESIGN CHARACTERISTICS, WARRANTIES, AND SPECIFIC FEATURES AND REQUIREMENTS INDICATED. INDICATE DEVIATIONS, IF ANY, FROM THE WORK SPECIFIED
- 6. CONTRACTOR'S WAIVER OF RIGHTS TO ADDITIONAL PAYMENT OR TIME THAT MAY SUBSEQUENTLY BECOME NECESSARY BECAUSE OF FAILURE OF PROPOSED SUBSTITUTION TO PRODUCE INDICATED RESULTS.
- F. ARCHITECT'S ACTION: IF NECESSARY, ARCHITECT WILL REQUEST ADDITIONAL INFORMATION OR DOCUMENTATION FOR EVALUATION WITHIN 7 DAYS OF RECEIPT OF A REQUEST FOR SUBSTITUTION. ARCHITECT WILL NOTIFY CONTRACTOR OF ACCEPTANCE OR REJECTION OF PROPOSED SUBSTITUTION WITHIN 14 DAYS OF RECEIPT OF REQUEST, OR 7 DAYS OF RECEIPT OF ADDITIONAL INFORMATION OR DOCUMENTATION.
- G. ARCHITECT WILL CONSIDER CONTRACTOR'S REQUEST FOR SUBSTITUTION WHEN THE LISTED REQUIREMENTS ARE SATISFIED. IF THE LISTED REQUIREMENTS ARE NOT SATISFIED, ARCHITECT WILL RETURN REQUESTS WITHOUT ACTION, EXCEPT TO RECORD NONCOMPLIANCE WITH LISTED REQUIREMENTS.
- H. FORMS OF ACCEPTANCE: CHANGE ORDER, CONSTRUCTION CHANGE DIRECTIVE, OR ARCHITECT'S SUPPLEMENTAL INSTRUCTIONS FOR MINOR CHANGES IN THE WORK.

SUBMITTAL REQUIREMENTS:

- A. PREPARE SUBMITTAL SCHEDULE: SUBMIT, AS AN ACTION SUBMITTAL, A LIST OF SUBMITTALS, ARRANGED IN CHRONOLOGICAL ORDER BY DATES REQUIRED BY CONSTRUCTION SCHEDULE. INCLUDE TIME REQUIRED FOR REVIEW, ORDERING, MANUFACTURING, FABRICATION, AND DELIVERY WHEN ESTABLISHING DATES. INCLUDE ADDITIONAL TIME REQUIRED FOR MAKING CORRECTIONS OR REVISIONS TO SUBMITTALS NOTED BY ARCHITECT AND CONTRACTOR AND ADDITIONAL TIME FOR HANDLING AND REVIEWING SUBMITTALS REQUIRED BY THOSE CORRECTIONS.
- B. PREPARE AND SUBMIT SUBMITTALS AS INCLUDED IN THE SUBMITTAL SCHEDULED.
- C. EMAIL: PREPARE SUBMITTALS AS PDF PACKAGE AND TRANSMIT TO ARCHITECT BY SENDING VIA EMAIL. INCLUDE PDF TRANSMITTAL FORM. INCLUDE INFORMATION IN EMAIL SUBJECT LINE AS REQUESTED BY ARCHITECT.
- D. WEB-BASED PROJECT MANAGEMENT SOFTWARE: PREPARE SUBMITTALS IN PDF FORM, AND UPLOAD TO WEB-BASED PROJECT MANAGEMENT SOFTWARE WEBSITE. ENTER REQUIRED DATA IN WEB-BASED SOFTWARE SITE TO FULLY IDENTIFY SUBMITTAL.
- E. ACTION SUBMITTALS AND INFORMATIONAL SUBMITTALS: REVIEW EACH SUBMITTAL AND CHECK FOR COORDINATION WITH OTHER WORK OF THE CONTRACT AND FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS. NOTE CORRECTIONS AND FIELD DIMENSIONS. MARK WITH APPROVAL STAMP BEFORE SUBMITTING TO ARCHITECT.
- F. USE FOR CONSTRUCTION: RETAIN COMPLETE COPIES OF SUBMITTALS ON PROJECT SITE. USE ONLY FINAL ACTION SUBMITTALS THAT ARE MARKED WITH APPROVAL NOTATION FROM ARCHITECT'S AND CONTRACTOR'S ACTION STAMP.
- G. SUBMITTAL INFORMATION: INCLUDE THE FOLLOWING INFORMATION IN EACH SUBMITTAL: 1. PROJECT NAME, DATE AND INDICATION OF FULL OR PARTIAL SUBMITTAL.
- 2. ARCHITECT'S AND CONTRACTOR'S AND/OR CONSTRUCTION MANAGER'S, FIRM OR ENTITY THAT PREPARED SUBMITTAL AND SUBCONTRACTOR, MANUFACTURER, AND SUPPLIER NAMES.
- 3. NUMBER AND TITLE OF SPECIFICATION SECTION, WITH PARAGRAPH NUMBER AND GENERIC NAME FOR EACH OF MULTIPLE ITEMS
- 4. MATERIAL OR SYSTEM NAME AND DRAWING NUMBER AND DETAIL REFERENCES, AS APPROPRIATE.
- 5. IDENTIFY OPTIONS REQUIRING SELECTION BY ARCHITECT
- 6. LOCATION(S) WHERE PRODUCT IS TO BE INSTALLED, AS APPROPRIATE AND OTHER NECESSARY INFORMATION.
- 7. ON EACH SUBMITTAL, CLEARLY INDICATE DEVIATIONS FROM REQUIREMENTS IN THE CONTRACT DOCUMENTS, INCLUDING MINOR VARIATIONS AND LIMITATIONS; INCLUDE RELEVANT ADDITIONAL INFORMATION AND REVISIONS, OTHER THAN THOSE REQUESTED BY ARCHITECT AND CONTRACTOR ON PREVIOUS SUBMITTALS. INDICATE BY HIGHLIGHTING ON EACH SUBMITTAL OR NOTING ON ATTACHED SEPARATE SHEET.
- H. INCOMPLETE SUBMITTALS ARE UNACCEPTABLE, WILL BE CONSIDERED NONRESPONSIVE, AND WILL BE RETURNED FOR RESUBMITTAL WITHOUT REVIEW. ARCHITECT'S ACTION: ARCHITECT WILL REVIEW INFORMATION OR DOCUMENTATION NOTIFY CONTRACTOR OF ACCEPTANCE REQUEST FOR MORE
- J. SUBMITTALS NOT REQUIRED BY THE CONTRACT DOCUMENTS WILL BE RETURNED BY ARCHITECT WITHOUT ACTION.

INFORMATION OR REJECTION WITHIN 14 DAYS OF RECEIPT. ARCHITECT WILL REVIEW RESUBMITTAL WITHIN 7 DAYS OF RECEIPT.

QUALITY REQUIREMENTS:

- A. CONFLICTING STANDARDS AND OTHER REQUIREMENTS: IF COMPLIANCE WITH TWO OR MORE STANDARDS OR REQUIREMENTS IS SPECIFIED AND THE STANDARDS OR REQUIREMENTS ESTABLISH DIFFERENT OR CONFLICTING REQUIREMENTS FOR MINIMUM QUANTITIES OR QUALITY LEVELS, INFORM THE ARCHITECT REGARDING THE CONFLICT AND OBTAIN CLARIFICATION PRIOR TO PROCEEDING WITH THE WORK. REFER CONFLICTING REQUIREMENTS THAT ARE DIFFERENT, BUT APPARENTLY EQUAL, TO ARCHITECT FOR CLARIFICATION BEFORE PROCEEDING.
- B. PREPARE AND SUBMIT CERTIFIED WRITTEN REPORTS REQUIRED. INCLUDE THE FOLLOWING:
- 1. PROJECT TITLE AND NUMBER AND DATE OF ISSUE. RECORD OF TEMPERATURE AND WEATHER CONDITIONS AT TIME OF SAMPLE TAKING AND TESTING AND INSPECTION. NAME AND SIGNATURE OF LABORATORY INSPECTOR.
- 2. NAME, ADDRESS, TELEPHONE NUMBER, AND EMAIL ADDRESS OF TESTING AGENCY
- 3. DATES AND LOCATIONS OF SAMPLES AND TESTS OR INSPECTIONS.
- 4. TEST AND INSPECTION RESULTS AND AN INTERPRETATION OF TEST RESULTS. COMMENTS OR PROFESSIONAL OPINION ON WHETHER TESTED OR INSPECTED WORK COMPLIES WITH THE CONTRACT DOCUMENT REQUIREMENTS. RECOMMENDATIONS ON RETESTING AND REINSPECTING.
- C. MANUFACTURER QUALIFICATIONS: A FIRM EXPERIENCED IN MANUFACTURING PRODUCTS OR SYSTEMS SIMILAR TO THOSE INDICATED FOR THIS PROJECT AND WITH A RECORD OF SUCCESSFUL IN-SERVICE PERFORMANCE, AS WELL AS SUFFICIENT PRODUCTION CAPACITY TO PRODUCE REQUIRED UNITS. AS APPLICABLE, PROCURE PRODUCTS FROM MANUFACTURERS ABLE TO MEET QUALIFICATION REQUIREMENTS, WARRANTY REQUIREMENTS, AND TECHNICAL OR FACTORY-AUTHORIZED SERVICE REPRESENTATIVE REQUIREMENTS.
- D. FABRICATOR QUALIFICATIONS: A FIRM EXPERIENCED IN PRODUCING PRODUCTS SIMILAR TO THOSE INDICATED FOR THIS PROJECT AND WITH A RECORD OF SUCCESSFUL IN-SERVICE PERFORMANCE, AS WELL AS SUFFICIENT PRODUCTION CAPACITY TO PRODUCE REQUIRED UNITS.
- INSTALLER QUALIFICATIONS: A FIRM OR INDIVIDUAL EXPERIENCED IN INSTALLING, ERECTING, APPLYING, OR ASSEMBLING WORK SIMILAR IN MATERIAL, DESIGN, AND EXTENT TO THAT INDICATED FOR THIS PROJECT, WHOSE WORK HAS RESULTED IN CONSTRUCTION WITH A RECORD OF SUCCESSFUL IN-SERVICE PERFORMANCE.
- F. TESTING AND INSPECTING AGENCY QUALIFICATIONS: AN NRTL, AN NVLAP, OR AN INDEPENDENT AGENCY WITH THE EXPERIENCE AND CAPABILITY TO CONDUCT TESTING AND INSPECTION INDICATED, AS DOCUMENTED ACCORDING TO ASTM E329; AND WITH ADDITIONAL QUALIFICATIONS REQUIRED BY THE CONSTRUCTION DOCUMENTS; AND, WHERE REQUIRED BY AUTHORITIES HAVING JURISDICTION, THAT IS ACCEPTABLE TO AUTHORITIES.
- G. PRECONSTRUCTION TESTING: WHERE TESTING AGENCY IS INDICATED TO PERFORM PRECONSTRUCTION TESTING FOR COMPLIANCE WITH SPECIFIED REQUIREMENTS FOR PERFORMANCE AND TEST METHODS, COMPLY WITH THE FOLLOWING:
- CONTRACTOR RESPONSIBILITIES INCLUDE THE FOLLOWING: PROVIDE TEST SPECIMENS REPRESENTATIVE OF PROPOSED PRODUCTS AND CONSTRUCTION. SUBMIT SPECIMENS IN A TIMELY MANNER WITH SUFFICIENT TIME FOR TESTING AND ANALYZING RESULTS TO PREVENT DELAYING THE WORK. WHEN TESTING IS COMPLETE, REMOVE TEST SPECIMENS AND TEST ASSEMBLIES, AND MOCKUPS UNLESS NOTED OTHERWISE; DO NOT REUSE PRODUCTS ON PROJECT.
- 2. TESTING AGENCY RESPONSIBILITIES: SUBMIT A CERTIFIED WRITTEN REPORT OF EACH TEST. INSPECTION. AND SIMILAR QUALITY-ASSURANCE SERVICE TO ARCHITECT OR CONTRACTOR. INTERPRET TESTS AND INSPECTIONS AND STATE IN EACH REPORT WHETHER TESTED AND INSPECTED WORK COMPLIES WITH OR DEVIATES FROM THE CONTRACT DOCUMENTS.
- H. MOCKUPS: BEFORE INSTALLING PORTIONS OF THE WORK REQUIRING MOCKUPS, BUILD MOCKUPS FOR EACH FORM OF CONSTRUCTION AND FINISH REQUIRED TO COMPLY WITH THE FOLLOWING REQUIREMENTS, USING MATERIALS INDICATED FOR THE COMPLETED WORK, TO SIZE AND LOCATION INDICATED. DEMONSTRATE THE PROPOSED RANGE OF AESTHETIC EFFECTS AND WORKMANSHIP. NOTIFY ARCHITECT AND CONTRACTOR 7 DAYS IN ADVANCE OF DATES AND TIMES WHEN MOCKUPS WILL BE CONSTRUCTED AND ALLOW 7 DAYS FOR REVIEW AND APPROVAL. OBTAIN THE APPROVAL FROM ARCHITECT AND CONTRACTOR BEFORE STARTING CORRESPONDING WORK, FABRICATION, OR CONSTRUCTION. MAINTAIN MOCKUPS DURING CONSTRUCTION IN AN UNDISTURBED CONDITION AS A STANDARD FOR JUDGING THE COMPLETED WORK. DEMOLISH AND REMOVE MOCKUPS WHEN DIRECTED UNLESS OTHERWISE INDICATED.
- I. QUALITY CONTROL:
- 1. CONTRACTOR RESPONSIBILITIES: TESTS AND INSPECTIONS ARE CONTRACTOR'S RESPONSIBILITY. PERFORM ADDITIONAL QUALITY-CONTROL ACTIVITIES, WHETHER SPECIFIED OR NOT, TO VERIFY AND DOCUMENT THAT THE WORK COMPLIES WITH REQUIREMENTS. ENGAGE A QUALIFIED TESTING AGENCY TO PERFORM QUALITY-CONTROL SERVICES. NOTIFY TESTING AGENCIES AT LEAST 72 HOURS IN ADVANCE OF TIME WHEN WORK THAT REQUIRES TESTING OR INSPECTION WILL BE PERFORMED. COOPERATE WITH AGENCIES AND REPRESENTATIVES PERFORMING REQUIRED TESTS, INSPECTIONS, AND SIMILAR QUALITY-CONTROL SERVICES, AND PROVIDE REASONABLE AUXILIARY SERVICES AS REQUESTED
- 2. TESTING AGENCY RESPONSIBILITIES: COOPERATE WITH ARCHITECT OR CONTRACTOR IN PERFORMANCE OF DUTIES. PROVIDE QUALIFIED PERSONNEL TO PERFORM REQUIRED TESTS AND INSPECTIONS. INTERPRET TESTS AND INSPECTIONS AND STATE IN EACH REPORT WHETHER TESTED AND INSPECTED WORK COMPLIES WITH OR DEVIATES FROM REQUIREMENTS. NOTIFY ARCHITECT OR CONTRACTOR PROMPTLY OF IRREGULARITIES OR DEFICIENCIES OBSERVED IN THE WORK DURING PERFORMANCE OF ITS SERVICES.
- 3. CONTRACTOR AND TESTING AGENCY SHALL COORDINATE SEQUENCE OF ACTIVITIES TO ACCOMMODATE REQUIRED QUALITY-ASSURANCE AND QUALITY-CONTROL SERVICES WITH A MINIMUM OF DELAY AND TO AVOID NECESSITY OF REMOVING AND REPLACING CONSTRUCTION TO ACCOMMODATE TESTING AND INSPECTION.
- J. SPECIAL TESTS AND INSPECTIONS: OWNER WILL ENGAGE A QUALIFIED TESTING AGENCY OR SPECIAL INSPECTOR TO CONDUCT SPECIAL TESTS AND INSPECTIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION AS THE RESPONSIBILITY OF OWNER AS INDICATED IN THE STATEMENT OF SPECIAL INSPECTIONS, AND AS FOLLOWS:
- VERIFYING THAT MANUFACTURER MAINTAINS DETAILED FABRICATION AND QUALITY-CONTROL PROCEDURES AND REVIEWING THE COMPLETENESS AND ADEQUACY OF THOSE PROCEDURES TO PERFORM THE WORK.
- 2. NOTIFY ARCHITECT OR CONTRACTOR PROMPTLY OF IRREGULARITIES OR DEFICIENCIES OBSERVED IN THE WORK DURING PERFORMANCE OF ITS SERVICES.
- 3. SUBMITTING A CERTIFIED WRITTEN REPORT OF EACH TEST, INSPECTION, AND SIMILAR QUALITY-CONTROL SERVICE TO ARCHITECT OR CONTRACTOR WITH COPY TO CONTRACTOR AND TO AUTHORITIES HAVING JURISDICTION. SUBMIT A FINAL REPORT OF SPECIAL TESTS AND INSPECTIONS AT SUBSTANTIAL COMPLETION, WHICH INCLUDES A LIST OF UNRESOLVED DEFICIENCIES.
- 4. RETESTING AND REINSPECTING CORRECTED WORK.
- K. ALL RETESTING/REINSPECTING: REGARDLESS OF WHETHER ORIGINAL TESTS OR INSPECTIONS WERE CONTRACTOR'S RESPONSIBILITY OR THE OWNER'S SPECIAL INSPECTIONS, PROVIDE QUALITY-CONTROL SERVICES, INCLUDING RETESTING AND REINSPECTING, FOR CONSTRUCTION THAT REPLACED WORK THAT FAILED TO COMPLY WITH THE CONTRACT DOCUMENTS.

CONSTRUCTION WASTE MANAGEMENT:

- A. DEVELOP A WASTE MANAGEMENT PLAN AND SUBMIT PLAN FOR APPROVAL WITHIN 14 DAYS OF DATE ESTABLISHED FOR COMMENCEMENT OF THE
- B. DISTRIBUTE AND IMPLEMENT APPROVED WASTE MANAGEMENT PLAN. PROVIDE HANDLING, CONTAINERS, STORAGE, SIGNAGE, TRANSPORTATION, AND OTHER ITEMS AS REQUIRED TO IMPLEMENT WASTE MANAGEMENT PLAN DURING THE ENTIRE DURATION OF THE CONTRACT.
- C. TRAIN WORKERS, SUBCONTRACTORS, AND SUPPLIERS ON PROPER WASTE MANAGEMENT PROCEDURES, AS APPROPRIATE FOR THE WORK.
- D. SITE ACCESS AND TEMPORARY CONTROLS: CONDUCT WASTE MANAGEMENT OPERATIONS TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS, WALKWAYS, AND OTHER ADJACENT OCCUPIED AND USED FACILITIES. DESIGNATE AND LABEL SPECIFIC AREAS ON PROJECT SITE NECESSARY FOR SEPARATING MATERIALS THAT ARE TO BE SALVAGED AND RECYCLED.

CLOSEOUT PROCEDURES:

- A. CONTRACTOR'S LIST OF INCOMPLETE ITEMS: PREPARE AND SUBMIT A LIST OF ITEMS TO BE COMPLETED AND CORRECTED (CONTRACTOR'S "PUNCH LIST"), INDICATING THE VALUE OF EACH ITEM ON THE LIST AND REASONS WHY THE WORK IS INCOMPLETE.
- B. SUBMITTALS PRIOR TO SUBSTANTIAL COMPLETION: COMPLETE THE FOLLOWING A MINIMUM OF 10 DAYS PRIOR TO REQUESTING INSPECTION FOR DETERMINING DATE OF SUBSTANTIAL COMPLETION.

1. SUBMIT A FINAL APPLICATION FOR PAYMENT.

- 2. CERTIFICATE OF INSURANCE: SUBMIT EVIDENCE OF FINAL, CONTINUING INSURANCE COVERAGE.
- 3. CERTIFIED LIST OF INCOMPLETE ITEMS: SUBMIT CERTIFIED COPY OF ARCHITECT'S SUBSTANTIAL COMPLETION INSPECTION LIST OF ITEMS TO BE COMPLETED OR CORRECTED (PUNCH LIST), ENDORSED AND DATED BY ARCHITECT. CERTIFIED COPY OF THE LIST SHALL STATE THAT EACH ITEM HAS BEEN COMPLETED OR OTHERWISE RESOLVED FOR ACCEPTANCE.
- 4. CERTIFICATES OF RELEASE: OBTAIN AND SUBMIT RELEASES FROM AUTHORITIES HAVING JURISDICTION, PERMITTING OWNER UNRESTRICTED USE OF THE WORK AND ACCESS TO SERVICES AND UTILITIES. INCLUDE OCCUPANCY PERMITS, OPERATING CERTIFICATES, AND SIMILAR RELEASES.
- 5. SUBMIT CLOSEOUT SUBMITTALS AS REQUIRED, INCLUDING SPECIFIC WARRANTIES, WORKMANSHIP BONDS, MAINTENANCE SERVICE AGREEMENTS, FINAL CERTIFICATIONS, AND SIMILAR DOCUMENTS.
- 6. SUBMIT MAINTENANCE MATERIAL SUBMITTALS SPECIFIED IN INDIVIDUAL SECTIONS, INCLUDING TOOLS, SPARE PARTS, EXTRA MATERIALS, AND SIMILAR ITEMS, AND DELIVER TO LOCATION DESIGNATED BY OWNER OR OWNER'S AGENT. LABEL WITH MANUFACTURER'S NAME AND MODEL NUMBER
- 7. SUBMIT TESTING, ADJUSTING, AND BALANCING RECORDS.
- 8. SUBMIT CHANGEOVER INFORMATION RELATED TO OWNER'S OCCUPANCY, USE, OPERATION, AND MAINTENANCE.

C. FINAL CLEANING

- MANUFACTURER'S WRITTEN INSTRUCTIONS.
- SIMILAR FOREIGN ORIGINAL CONDITION.
- RECOMMENDATIONS IF VISIBLE SOIL OR STAINS REMAIN.
- EXPOSURE.
- OPERATIONS AND MAINTENANCE DATA:
- BEFORE COMMENCING DEMONSTRATION AND TRAINING.

PAGE AND TABLE OF CONTENTS.

- 1. TITLE PAGE SHALL INCLUDE
- a. SUBJECT MATTER INCLUDED IN MANUAL. b. DATE OF SUBMITTAL.

- PROJECT RECORD DOCUMENTS:

- FORMAT REQUIREMENTS.

DEMONSTRATION AND TRAINING:

- INSTRUCTION TIMES, AND LOCATION.
- SUBSYSTEMS, AND EQUIPMENT NOT PART OF A SYSTEM.
- SIMILAR INSTRUCTION AT START OF EACH SEASON.
- SUBMITTALS.
- USE A DEMONSTRATION PERFORMANCE-BASED TEST.

1. EMPLOY EXPERIENCED WORKERS OR PROFESSIONAL CLEANERS FOR FINAL CLEANING. CLEAN EACH SURFACE OR UNIT TO CONDITION EXPECTED IN AN AVERAGE COMMERCIAL BUILDING CLEANING AND MAINTENANCE PROGRAM. COMPLY WITH

2. USE CLEANING PRODUCTS THAT COMPLY WITH GREEN SEAL'S GS-37, OR IF GS-37 IS NOT APPLICABLE, USE PRODUCTS THAT COMPLY WITH THE CALIFORNIA CODE OF REGULATIONS MAXIMUM ALLOWABLE VOC LEVELS.

3. CLEAN EXPOSED EXTERIOR AND INTERIOR HARD-SURFACED FINISHES TO A DIRT-FREE CONDITION, FREE OF STAINS, FILMS, AND SUBSTANCES. AVOID DISTURBING NATURAL WEATHERING OF EXTERIOR SURFACES. RESTORE REFLECTIVE SURFACES TO THEIR

4. VACUUM CARPET AND SIMILAR SOFT SURFACES, REMOVING DEBRIS AND EXCESS NAP; CLEAN ACCORDING TO MANUFACTURER'S

5. CLEAN TRANSPARENT MATERIALS, INCLUDING MIRRORS AND GLASS IN DOORS AND WINDOWS. REMOVE GLAZING COMPOUNDS AND OTHER NOTICEABLE, VISION-OBSCURING MATERIALS. POLISH MIRRORS AND GLASS, TAKING CARE NOT TO SCRATCH

6. CLEAN PLUMBING FIXTURES TO A SANITARY CONDITION, FREE OF STAINS, INCLUDING STAINS RESULTING FROM WATER

A. SUBMIT EACH MANUAL IN FINAL FORM PRIOR TO REQUESTING INSPECTION FOR SUBSTANTIAL COMPLETION AND AT LEAST 10 DAYS

B. CORRECT OR REVISE EACH MANUAL TO COMPLY WITH ARCHITECT'S COMMENTS. SUBMIT COPIES OF EACH CORRECTED MANUAL WITHIN 10 DAYS OF RECEIPT OF ARCHITECT'S COMMENTS AND PRIOR TO COMMENCING DEMONSTRATION AND TRAINING.

C. SUBMIT ON DIGITAL MEDIA ACCEPTABLE TO ARCHITECT BY UPLOADING TO WEB-BASED PROJECT SOFTWARE SITE OR BY EMAIL TO ARCHITECT, IF WEB-BASED SOFTWARE IS NOT UTILIZED. ENABLE REVIEWER COMMENTS ON DRAFT SUBMITTALS.

1. ELECTRONIC FILES: USE ELECTRONIC FILES PREPARED BY MANUFACTURER WHERE AVAILABLE. WHERE SCANNING OF PAPER DOCUMENTS IS REQUIRED. CONFIGURE SCANNED FILE FOR MINIMUM READABLE FILE SIZE.

2. BOOKMARK INDIVIDUAL DOCUMENTS BASED ON FILE NAMES. NAME DOCUMENT FILES TO CORRESPOND TO SYSTEM, SUBSYSTEM, AND EQUIPMENT NAMES USED IN MANUAL DIRECTORY AND TABLE OF CONTENTS. GROUP DOCUMENTS FOR EACH SYSTEM AND SUBSYSTEM INTO INDIVIDUAL COMPOSITE BOOKMARKED FILES, THEN CREATE COMPOSITE MANUAL, SO THAT RESULTING BOOKMARKS REFLECT THE SYSTEM, SUBSYSTEM, AND EQUIPMENT NAMES IN A READILY NAVIGATED FILE TREE. CONFIGURE ELECTRONIC MANUAL TO DISPLAY BOOKMARK PANEL ON OPENING FILE.

D. ORGANIZATION OF MANUALS: UNLESS OTHERWISE INDICATED, ORGANIZE EACH MANUAL INTO A SEPARATE SECTION FOR EACH SYSTEM AND SUBSYSTEM, AND A SEPARATE SECTION FOR EACH PIECE OF EQUIPMENT NOT PART OF A SYSTEM. PROVIDE A TITLE

NAME AND CONTACT INFORMATION FOR CONTRACTOR AND CONSTRUCTION MANAGER WHEN APPLICABLE. d. NAME AND CONTACT INFORMATION FOR COMMISSIONING AUTHORITY.

2. EMERGENCY MANUAL: ASSEMBLE A COMPLETE SET OF EMERGENCY INFORMATION INDICATING PROCEDURES FOR USE BY EMERGENCY PERSONNEL AND BY OWNER'S OPERATING PERSONNEL FOR TYPES OF EMERGENCIES INDICATED.

3. SYSTEMS AND EQUIPMENT OPERATION MANUAL: ASSEMBLE A COMPLETE SET OF DATA INDICATING OPERATION OF EACH SYSTEM, SUBSYSTEM, AND PIECE OF EQUIPMENT NOT PART OF A SYSTEM. INCLUDE INFORMATION REQUIRED FOR DAILY OPERATION AND MANAGEMENT, OPERATING STANDARDS, AND ROUTINE AND SPECIAL OPERATING PROCEDURES.

4. SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS: ASSEMBLE A COMPLETE SET OF DATA INDICATING MAINTENANCE OF EACH SYSTEM, SUBSYSTEM, AND PIECE OF EQUIPMENT NOT PART OF A SYSTEM. INCLUDE MANUFACTURERS' MAINTENANCE DOCUMENTATION, PREVENTIVE MAINTENANCE PROCEDURES AND FREQUENCY, REPAIR PROCEDURES, WIRING AND SYSTEMS DIAGRAMS, LISTS OF SPARE PARTS, AND WARRANTY INFORMATION.

5. PRODUCT MAINTENANCE MANUAL: ASSEMBLE A COMPLETE SET OF MAINTENANCE DATA INDICATING CARE AND MAINTENANCE OF EACH PRODUCT, MATERIAL, AND FINISH INCORPORATED INTO THE WORK.

A. RECORD PRINTS: MAINTAIN ONE SET OF MARKED-UP PAPER COPIES OF THE CONTRACT DRAWINGS AND SHOP DRAWINGS, INCORPORATING NEW AND REVISED DRAWINGS AS MODIFICATIONS ARE ISSUED.

B. MAINTAIN ONE COPY OF EACH SUBMITTAL DURING THE CONSTRUCTION PERIOD FOR PROJECT RECORD DOCUMENT PURPOSES. POST CHANGES AND REVISIONS TO PROJECT RECORD DOCUMENTS AS THEY OCCUR; DO NOT WAIT UNTIL END OF PROJECT

C. RECORD DIGITAL DATA FILES: IMMEDIATELY BEFORE INSPECTION FOR CERTIFICATE OF SUBSTANTIAL COMPLETION, REVIEW MARKED-UP RECORD DOCUMENTS WITH ARCHITECT OR CONTRACTOR, WHEN AUTHORIZED, PREPARE A FULL SET OF CORRECTED DIGITAL DATA FILES OF THE CONTRACT DOCUMENTS. SEE OPERATIONS AND MAINTENANCE DATA SECTION ABOVE FOR SUBMISSION

A. FACILITATOR: CONTRACTOR OR CONSTRUCTION MANAGER SHALL PREPARE INSTRUCTION PROGRAM AND TRAINING MODULES, TO COORDINATE INSTRUCTORS, AND TO COORDINATE BETWEEN CONTRACTOR AND OWNER FOR NUMBER OF PARTICIPANTS,

B. ENGAGE QUALIFIED INSTRUCTORS TO INSTRUCT OWNER'S PERSONNEL TO ADJUST, OPERATE, AND MAINTAIN SYSTEMS,

C. PROVIDE INSTRUCTION AT MUTUALLY AGREED-ON TIMES. FOR EQUIPMENT THAT REQUIRES SEASONAL OPERATION, PROVIDE

D. TRAINING LOCATION AND REFERENCE MATERIAL: CONDUCT TRAINING ON-SITE IN THE COMPLETED AND FULLY OPERATIONAL FACILITY USING THE ACTUAL EQUIPMENT IN-PLACE. CONDUCT TRAINING USING FINAL OPERATION AND MAINTENANCE DATA

E. EVALUATION: AT CONCLUSION OF EACH TRAINING MODULE, ASSESS AND DOCUMENT EACH PARTICIPANT'S MASTERY OF MODULE BY

F. COLLECT USED AND LEFTOVER EDUCATIONAL MATERIALS AND GIVE TO OWNER. REMOVE INSTRUCTIONAL EQUIPMENT. RESTORE SYSTEMS AND EQUIPMENT TO CONDITION EXISTING BEFORE INITIAL TRAINING USE.



560 5th St. NW Suite 305 Grand Rapids, MI 49504 www.bergmannpc.com

ORCHARD VIEW SCHOOL DISTRICT CARDINAL ELEMENTARY CAFETERIA ACOUSTICAL TREATMENT

2310 MARQUETTE AVE MUSKEGON, MI 49442

Date Revised 1-24-2023

1-31-2023

Description OWNER REVIEW

BIDS

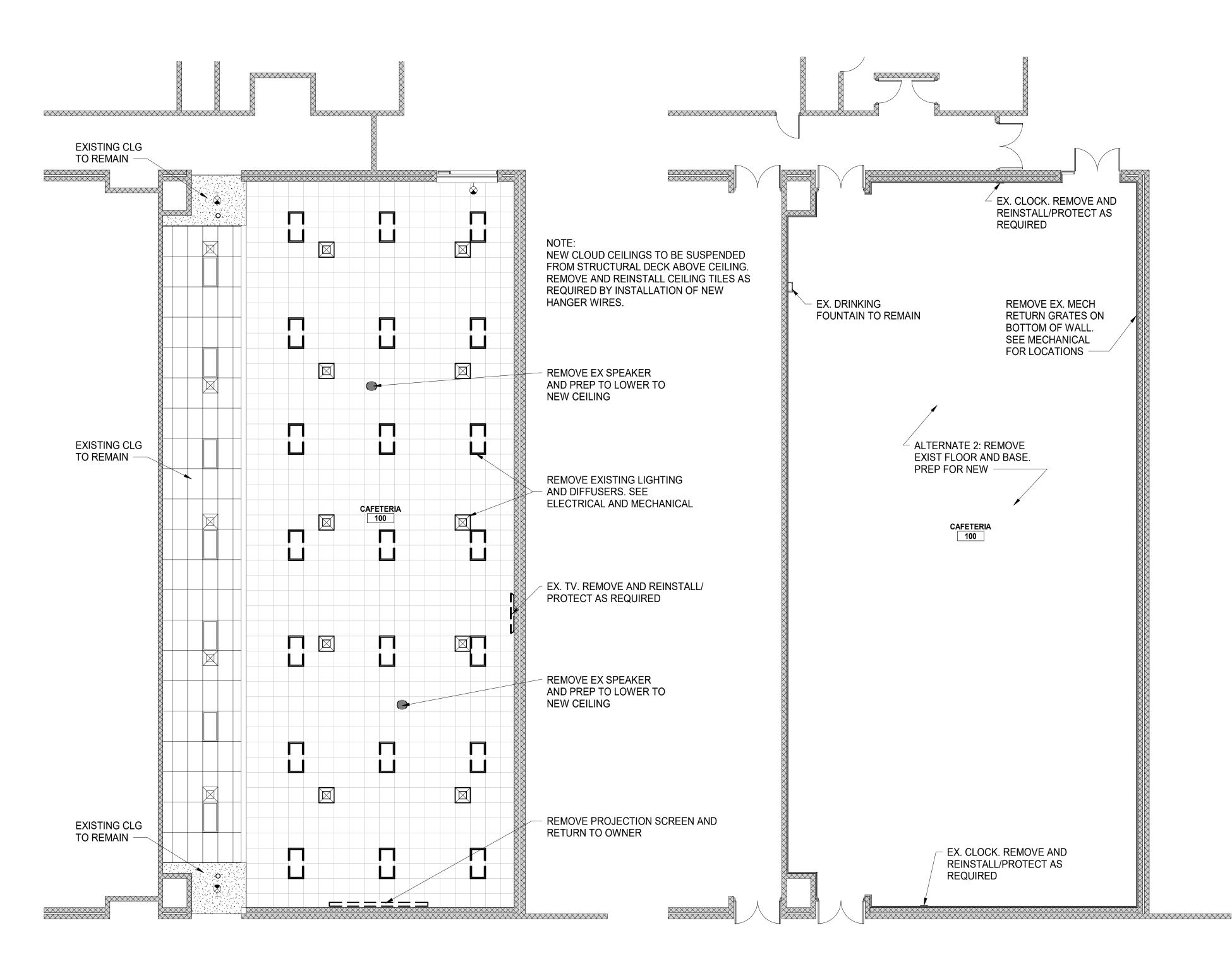
Copyright © Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.

Project Manager D HOLTROP	Discipline Lead B HUYLER
Designer	Reviewer
E POST	R KEUNEKE
Date Issued	Project Number
1/31/2023	22013310A

Sheet Name

GENERAL REQUIREMENTS







FIRST FLOOR DEMOLITION RCP



FIRST FLOOR DEMOLITION PLAN

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

GENERAL NOTES

- A. CONTRACTOR SHALL COORDINATE REMOVAL OF FLOORS, WALLS AND CEILINGS WITH MECHANICAL, ELECTRICAL AND PLUMBING TRADES. ALL POWER, MECHANICAL AND PLUMBING LINES SHALL BE REMOVED BACK TO NEAREST MAIN BRANCH LINE OR PANEL.
- B. CONTRACTOR SHALL PROTECT EXISTING CONSTRUCTION AND EQUIPMENT NOTED TO REMAIN FROM DAMAGE RESULTING FROM DEMOLITION ACTIVITIES. ANY DAMAGE TO EXISTING PROPERTY RESULTING FROM DEMOLITION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- C. CONTRACTOR SHALL PROTECT ADJACENT SURFACES IN PREPARATION OF SAW CUTTING REQUIRED FOR DEMOLITION ACTIVITIES.



560 5th St. NW Suite 305 Grand Rapids, MI 49504 www.bergmannpc.com

1-31-2023



Key Plan	

BIDS

Copyright © Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.

Project Manager	Discipline Lead
D HOLTROP	B HUYLER
Designer	Reviewer
E POST	R KEUNEKE
Date Issued	Project Number
1/31/2023	22013310A

Sheet Name

FIRST FLOOR AND CEILING DEMOLITION PLANS



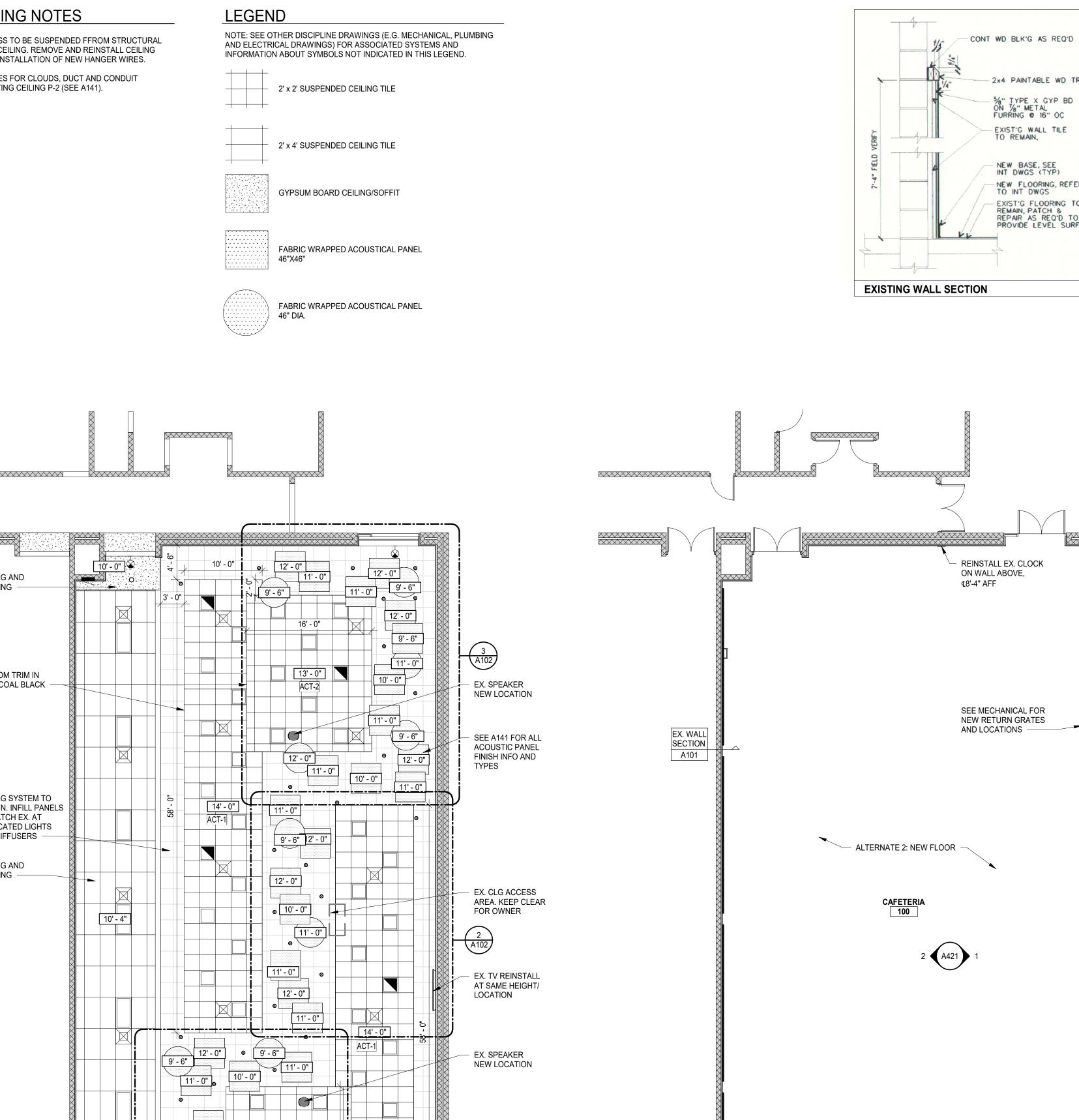


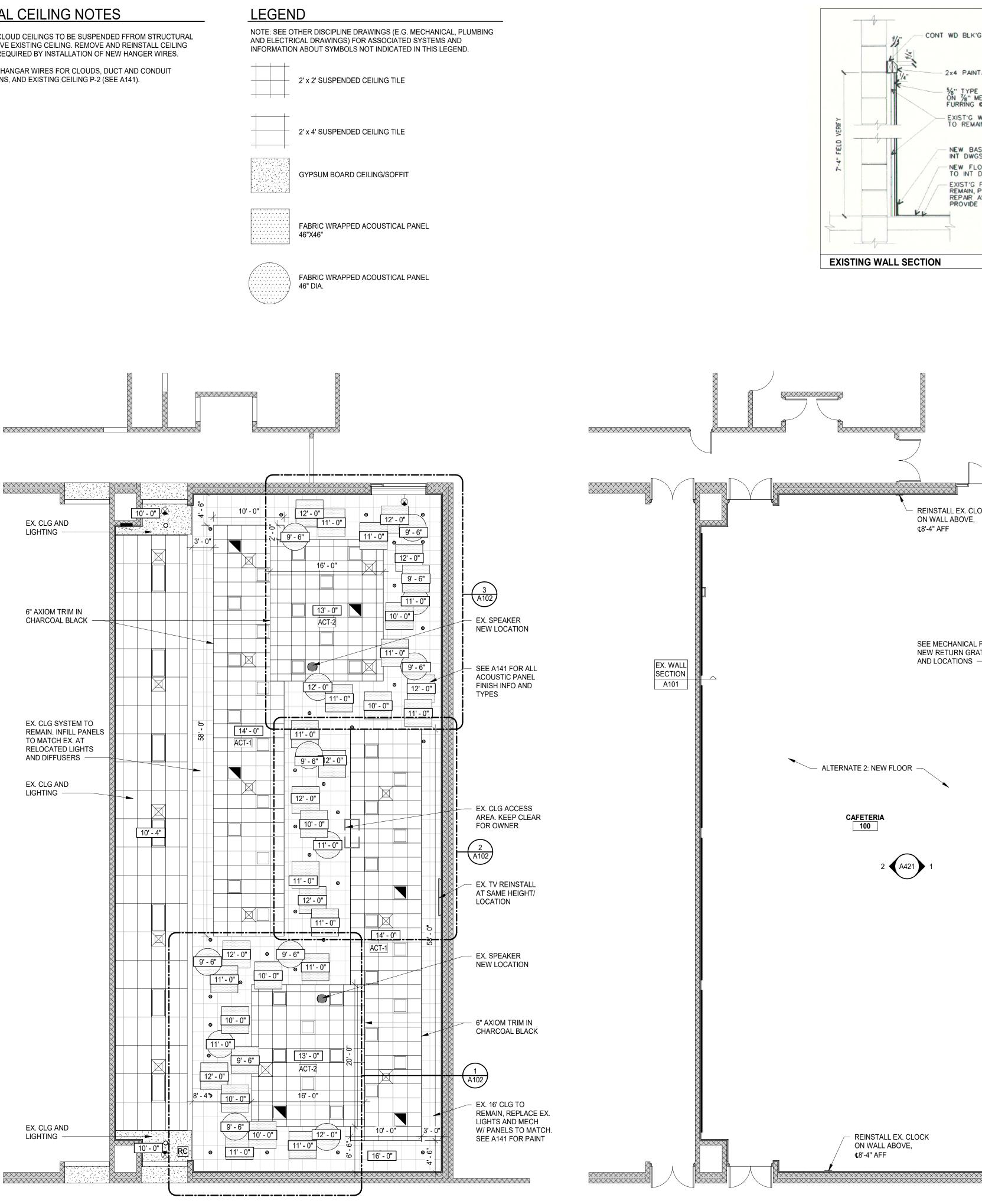
GENERAL CEILING NOTES

- A. ALL NEW CLOUD CEILINGS TO BE SUSPENDED FFROM STRUCTURAL DECK ABOVE EXISTING CEILING. REMOVE AND REINSTALL CEILING TILES AS REQUIRED BY INSTALLATION OF NEW HANGER WIRES.
- B. PAINT ALL HANGAR WIRES FOR CLOUDS, DUCT AND CONDUIT EXTENSIONS, AND EXISTING CEILING P-2 (SEE A141).











2x4 PAINTABLE WD TRIM

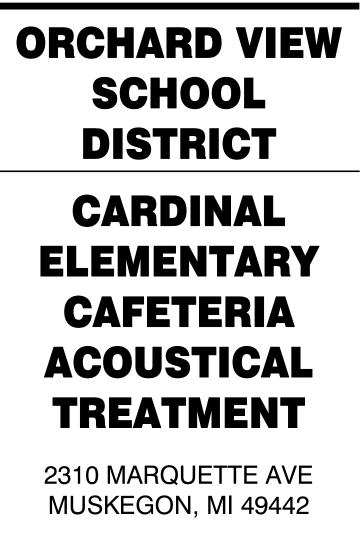
- NEW FLOORING, REFER TO INT DWGS EXIST'G FLOORING TO REMAIN, PATCH & REPAIR AS REQ'D TO PROVIDE LEVEL SURFACE

GENERAL NOTES

A. REFER TO A140 SERIES DRAWINGS FOR FINISH PLANS, SCHEDULES, AND DETAILS.



560 5th St. NW Suite 305 Grand Rapids, MI 49504 www.bergmannpc.com



Date Revised	Description
1-24-2023	OWNER REVIEW
1-31-2023	BIDS

Copyright © Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.

Project Manager	Discipline Lead
D HOLTROP	B HUYLER
Designer	Reviewer
E POST	R KEUNEKE
Date Issued	Project Number
1/31/2023	22013310A

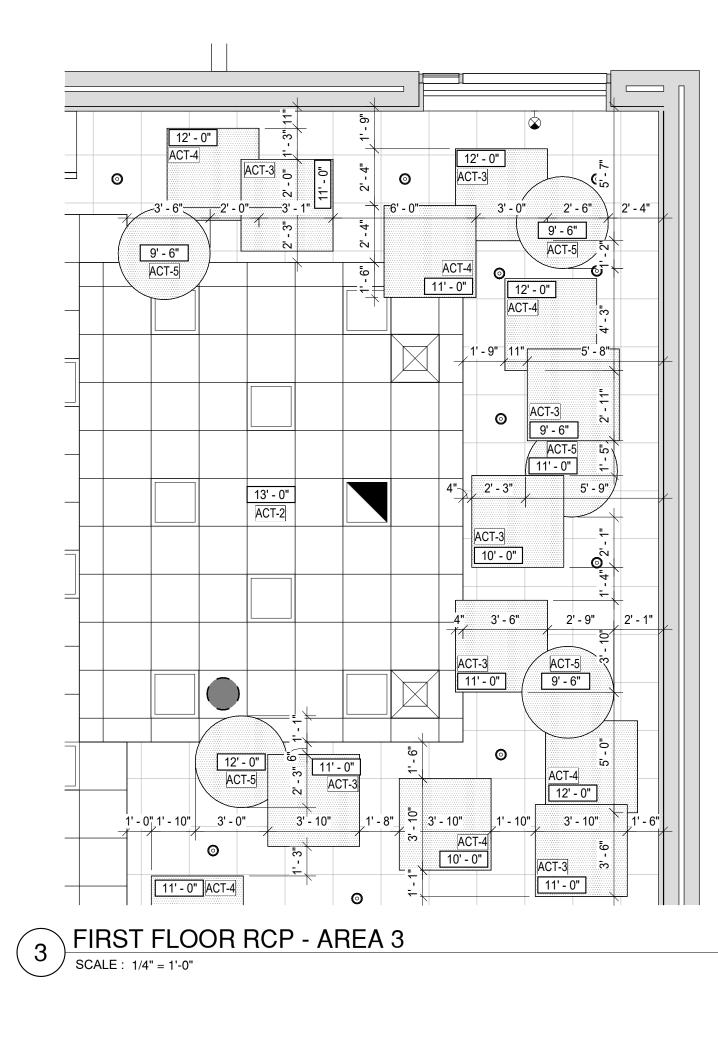
Sheet Name

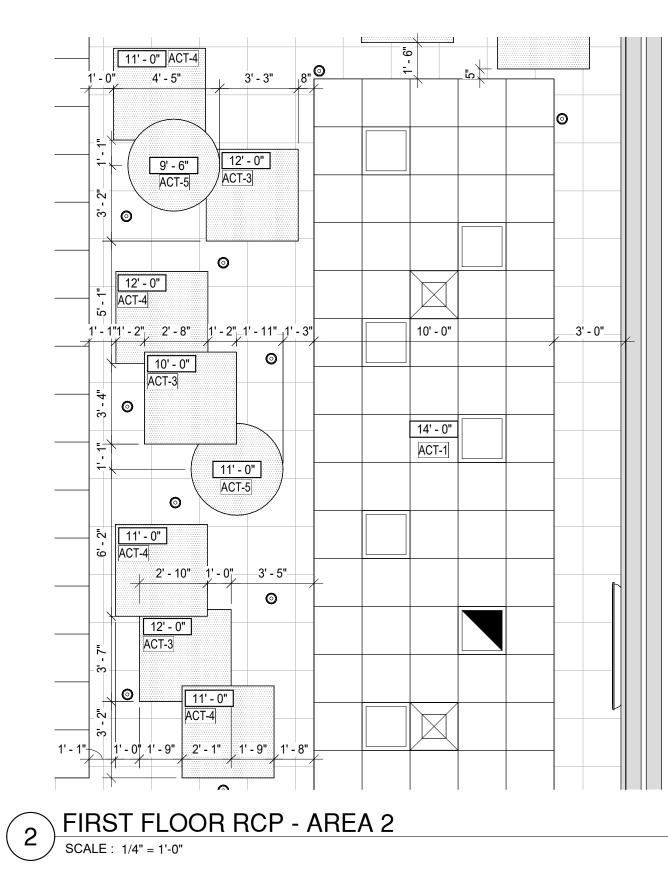
FIRST FLOOR AND CEILING PLANS

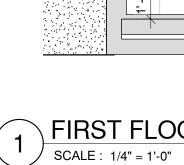
A101

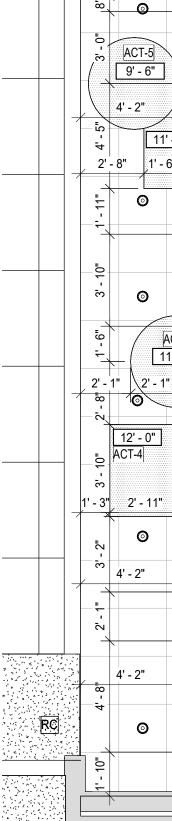
Drawing Number











GENERAL NOTES

A. REFER TO A140 SERIES DRAWINGS FOR FINISH PLANS, SCHEDULES, AND DETAILS.

LEGEND

NOTE: SEE OTHER DISCIPLINE DRAWINGS (E.G. MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS) FOR ASSOCIATED SYSTEMS AND INFORMATION ABOUT SYMBOLS NOT INDICATED IN THIS LEGEND.



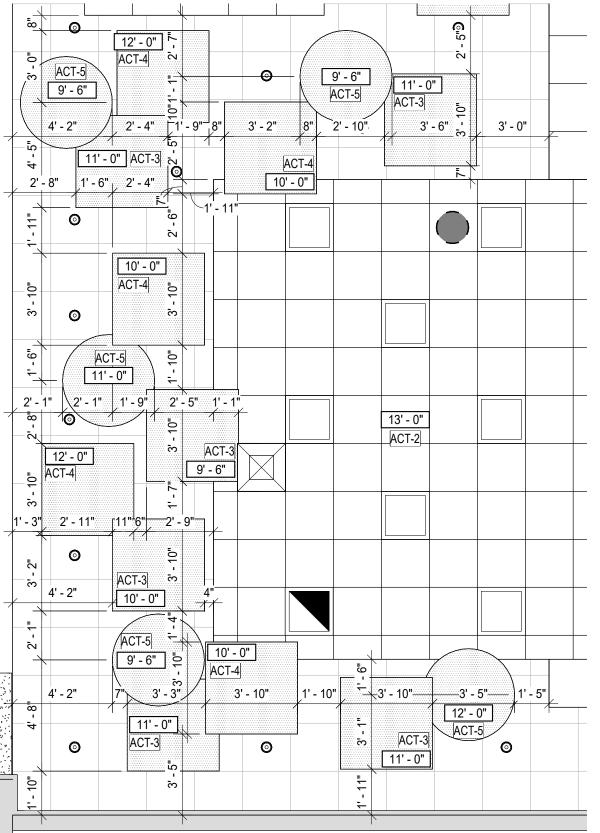
2' x 2' SUSPENDED CEILING TILE

2' x 4' SUSPENDED CEILING TILE

GYPSUM BOARD CEILING/SOFFIT

FABRIC WRAPPED ACOUSTICAL PANEL 46"X46"

FABRIC WRAPPED ACOUSTICAL PANEL 46" DIA.



FIRST FLOOR RCP - AREA 1





2310 MARQUETTE AVE MUSKEGON, MI 49442

Date Revised	Description
1-24-2023	OWNER REVIEW
1-31-2023	BIDS
Key Plan	

Copyright © Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.

Project Manager	Discipline Lead
D HOLTROP	B HUYLER
Designer	Reviewer
E POST	R KEUNEKE
Date Issued	Project Number
1/31/2023	22013310A

Sheet Name

FIRST FLOOR ENLARGED **CEILINGS PLANS**

A102

) 22x34					
ANSI D	095113 ACOUS	BASIS OF DESIGN TICAL PANEL CEILINGS			
	ACT-1: ACOUSTICAL MANUFACTURER: STYLE: COLOR:	L CEILING TILE 24"X24" ARMSTRONG CALLA WHITE			
	GRID: NOTE:	SQUARE LAY-IN 15/16 15/16" WHITE 6" AXIOM TRIM AT CLOUDS - CHARCOAL BLACK L CEILING TILE 24"X24" ARMSTRONG			
	COLOR: EDGE: GRID:	CALLA LIGHT GREY SQUARE LAY-IN 15/16 15/16" LIGHT GREY (TBD) 6" AXIOM TRIM AT CLOUDS - CHARCOAL BLACK			
	MANUFACTURER: STYLE: FABRIC:	L CEILING PANEL; 2" THICK BASIS OF DESIGN: KOROSEAL SOUND DESIGNS PERFORMANCE SERIES FR701 - SILVER NEUTRAL ALT MANUF: KINETICS & SOUND SEAL			
	MANUFACTURER: STYLE: FABRIC:	L CEILING PANEL; 2" THICK BASIS OF DESIGN: KOROSEAL SOUND DESIGNS PERFORMANCE SERIES FR701 - FLANNEL ALT MANUF: KINETICS & SOUND SEAL			
	MANUFACTURER: STYLE: FABRIC:	L CEILING PANEL; 2" THICK BASIS OF DESIGN: KOROSEAL SOUND DESIGNS PERFORMANCE SERIES FR701 - CLARET ACCENT ALT MANUF: KINETICS & SOUND SEAL			
	098433 INTERIC	DR PAINT			<u>xxxxxxxxxxxxx</u>
	COLOR:	DR PAINT SHERWIN-WILLIAMS SW 7008 - ALABASTER SATIN			2
	COLOR:	RIOR PAINT SHERWIN-WILLIAMS SW 6258 - TRICORN BLACK TBD			
	098200 ACOUS	TICAL WALL PANELS - ALTERNATE 1			
	MANUFACTURER: STYLE: FABRIC: NOTE:	- WALL PANEL; 1.5" THICK BASIS OF DESIGN: KOROSEAL SOUND DESIGNS PERFORMANCE PLUS SERIES BEEHAVE - BLACK SEE A421 FOR SIZING ALT MANUF: KINETICS & SOUND SEAL	-		
	MANUFACTURER: STYLE: FABRIC: NOTE:	- WALL PANEL; 1.5" THICK BASIS OF DESIGN: KOROSEAL SOUND DESIGNS PERFORMANCE PLUS SERIES BEEHAVE - SLATE SEE A421 FOR SIZING ALT MANUF: KINETICS & SOUND SEAL	-		
	096519 RESILIE	INT TILE FLOORING - ALTERNATE 2			
	STYLE: COLOR:	SHAW CONTRACT SOLITUDE 0648V COCOA 48103 STAGGER LAYOUT			ACT-
	096530 RESILIE	NT WALL BASE - ALTERNATE 2			
	COLOR:				
					ACT-5 ACT-3
					ACT-4
					ACT-4 • ACT-3
					a ACT-5
31/2023 9:03:16 AM			2 FIRST FLOOI SCALE : 1/8" = 1'-0"	<u>R FINISH R</u>	CP
β					

			ROOM	FINISH SCHI	EDULE			
ROOM					WA	LLS		
NUMBER	ROOM NAME	FLOOR	BASE	NORTH	SOUTH	EAST	WEST	CEILING
1ST FLOOR	1		1					
100	CAFETERIA	LVT-1	RB-1	P-1	P-1	P-1	P-1	EX CEILING ELEVATION 16'-0" TO BE PAINTED P-



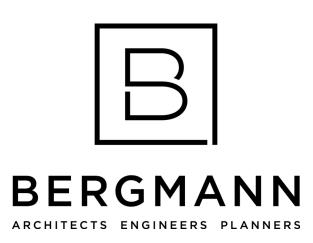
GENERAL NOTES

- NG REMARKS G AT FLOOR AND ON BASE ARE BE PART OF P-2 ALTERNATE 2
- A. COMPLY WITH MANUFACTURER'S RECOMMENDATIONS FOR PREPARING AND INSTALLING FINISHES.
- B. PROTECT ADJACENT WORK BY SUITABLY COVERING DURING WORK.
- C. REMOVE ADHESIVE OR PAINT SPOTS FROM FINISHED FLOORS, WALLS, GLASS OR OTHER SURFACES. FINISHES TO MEET OR EXCEED CODE REQUIREMENTS.
- D. INSTALL MATERIALS USING MANUFACTURER'S APPROVED ADHESIVES AND METHODS, U.O.N.
- E. FILL MINOR DRYWALL IRREGULARITIES WITH SPACKLING COMPOUND AND SAND TO A SMOOTH LEVEL SURFACE. EXERCISE CARE TO AVOID RAISING THE NAP OF PAPER
- F. DO NOT PERFORM PAINTING AND OTHER FINISHING WORK UNDER CONDITIONS UNSUITABLE FOR EXECUTION OF PAINTING WORK. AIR SHALL BE FREE FROM DUST AND DIRT TO PREVENT LODGING OF FOREIGN MATTER IN FRESH PAINT. FLOORS MUST BE BROOM CLEAN BEFORE PAINTING IS STARTED.
- G. PAINT DESIGNATIONS INDICATE COLOR ONLY, REFER TO SPECIFICATION FOR FINISH TYPE.
- H. EDGES OF PAINT ADJOINING OTHER COLORS OR MATERIALS TO BE SHARP AND CLEAN WITHOUT OVERLAP.
- I. EXAMINE SURFACES TO RECEIVE PAINT CAREFULLY FOR DEFECTS. DO NOT PROCEED WITH WORK UNTIL DEFECTS ARE CORRECTED.
- J. WHENEVER NECESSARY TO OBTAIN REQUIRED RESULTS, REFINISH AN ENTIRE WALL RATHER THAN SPOT FINISHING WHERE A PORTION OF THE FINISH HAS BEEN DAMAGED OR IS UNSATISFACTORY.
- K. PREPARE FLOOR SURFACES INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING: A. PREPARE/PROPERLY REPAIR AND PATCH SUBFLOORS TO A SMOOTH AND LEVEL FINISH.
- B. FLASH PATCH AS REQUIRED, READY TO RECEIVE NEW FINISH. L. PROVIDE SELF LEVELING TROWELABLE UNDERLAYMENT WHERE REQUIRED TO OBTAIN FINISH MANUFACTURER'S REQUIRED SUBFLOOR CONDITION.
- M. INSTALL TILE PER THE TILE COUNCIL OF NORTH AMERICA'S INSTALLATION SPECIFICATIONS.
- N. PROVIDE THE REQUIRED TRANSITIONS BASED ON TYPES IDENTIFIED ON DRAWINGS AT EACH FINISH TRANSITION LOCATION
- O. CENTER FLOOR MATERIAL TRANSITIONS ON DOOR ABOVE.
- P. FINISHED FLOORS EXTEND INTO TOE SPACES, CLOSETS, DOOR REVEALS AND SIMILAR OPENINGS.
- Q. REFER TO REFLECTED CEILING PLANS FOR CEILING FINISHES.

FINISH SYMBOL LEGEND

- XX# FLOOR FINISH
- XX# FLOOR FINISH ONLY

(X#)- GENERAL WALL FINISH



560 5th St. NW Suite 305 Grand Rapids, MI 49504 www.bergmannpc.com



2310 MARQUETTE AVE MUSKEGON, MI 49442

Date Revised	Description
1-24-2023	OWNER REVIEW
1-31-2023	BIDS
-	
Key Plan	

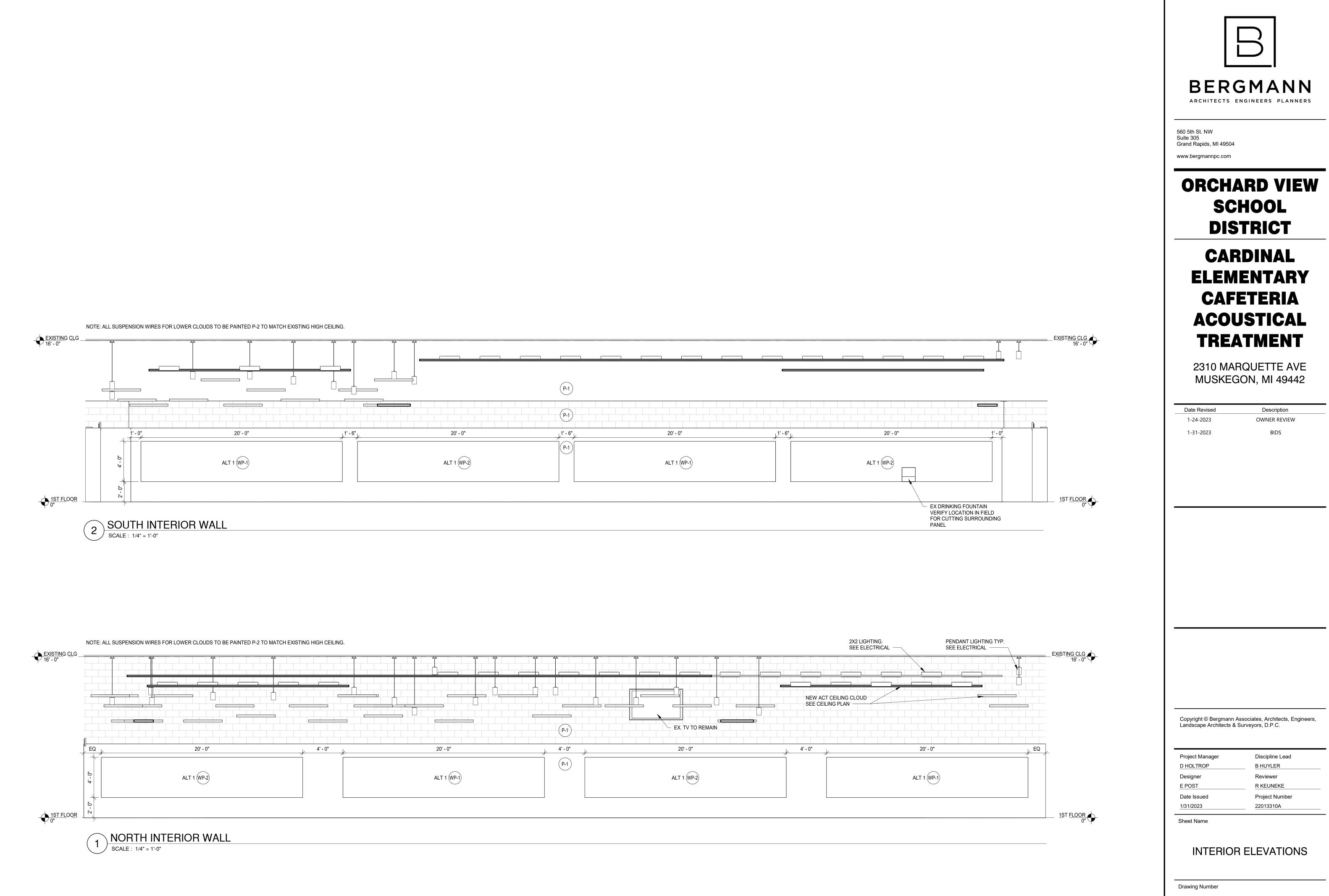
Copyright © Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.

Project Manager	Discipline Lead
D HOLTROP	B HUYLER
Designer	Reviewer
E POST	R KEUNEKE
Date Issued	Project Number
1/31/2023	22013310A

Sheet Name

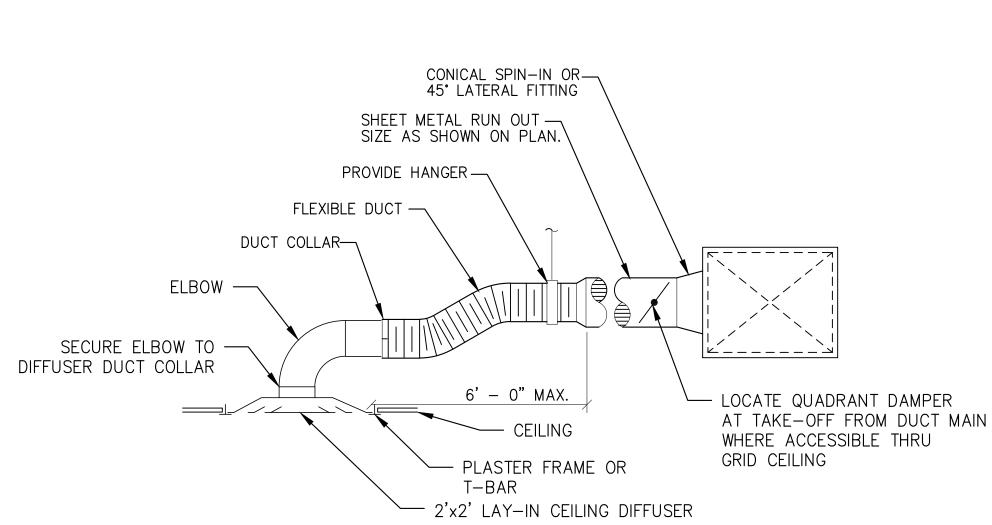
FIRST FLOOR FINISH PLAN

A141









HVAC ABBREVIATIONS

ARCH	ARCHITECTURAL	HTG	HE
BD	BALANCING DAMPER	HVAC	HE
CD	CEILING DIFFUSER		
CLG	CEILING	MC	M
CONN	CONNECTION	MECH	M
CONST	CONSTRUCTION	MFGR	M
DWG	DRAWING	RG	RE
DX	DIRECT EXPANSION	TYP	TY
EA	EACH	TG	TR
EAT	ENTERING AIR TEMPERATURE	W/	W
EXIST	EXISTING	W/O	W
GA	GAUGE		
GC	GENERAL CONTRACTOR		
GALV	GALVANIZED		

HVAC LEGEND

\boxtimes	CEILING DIFFUSER (ROUND NECK)	
	RETURN/EXHAUST GRILLE	(2) <u>CD-1</u> TAG 8"0 - NECK 150 EA NECK
-\	EXHAUST/RETURN AIRFLOW ARROW	AIR F CFM
T	THERMOSTAT/SENSOR	9 -

DIFFUSER, REGISTER & GRILLE SCHEDULE VOLUME MARK SERVICE MODEL CONTROL REMARKS FINISH STANDARD WHITE 1/2" x 1/2" x 1/2", 24"x24" LAY-IN BAKED ENAMEL STANDARD WHITE 1/2" SPACING, 38º FIXED, SURF BAKED ENAMEL

			DAMPE
TG-1	EGGCRATE GRILLE	50F	NO
RG-1	HEAVY DUTY RETURN GRILLE	33RL	NO

1. BASED ON TITUS.

MECHANICAL (DIVISION 23) SPECIFICATION: GENERAL REQUIREMENTS

PROVIDE EQUIPMENT AND COMPONENTS INDICATED ON THE DRAWINGS, AND AS REQUIRED FOR A COMPLETE FUNCTIONING SYSTEM. CONTRACTOR WILL BE RESPONSIBLE FOR RECEIVING, RIGGING AND INSTALLING ALL EQUIPMENT

DEFINITIONS: FURNISH MEANS TO SUPPLY AND DELIVER TO PROJECT SITE, READY FOR INSTALLATION. INSTALL MEANS TO PLACE IN POSITION AND MAKE CONNECTIONS FOR SERVICE OR USE. PROVIDE MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR INTENDED USE. RECEIVE MEANS TO COORDINATE AND ACCEPT DELIVERY OF EQUIPMENT AT JOBSITE.

GENERAL DUCT REQUIREMENTS

PROVIDED PART OF THEIR WORK CATEGORY.

DUCT INSULATION: INDOOR: PROVIDE INSULATION FOR ALL CONCEALED SUPPLY & OA DUCTWORK PROVIDE MINIMUM 1.5" THICK BLANKET TYPE FIBERGLASS INSULATION COMPLYING WITH ASTM C-553, TYPE II, WITH FACTORY APPLIED KRAFT BONDED TO ALUMINUM FOIL, REINFORCED WITH FIBERGLASS VAPOR BARRIER/JACKET. JACKET SHALL CONFORM TO ASTM C-1136, TYPE II. INSTALLED R-VALUE SHALL BE 4.2 OR HIGHER WITH A 3/4 PCF DENSITY -OR- PROVIDE MINIMUM 1" THICKNESS INTERNAL ACOUSTIC DUCT LINER (R3.5). INTERNAL DUCT LINER TO BE EQUAL TO JOHNS MANSVILLE LINACOUSTIC RC. NOTE: ALL RA & SA DUCTWORK TO BE LINED WITHIN 25' OF EQUIPMENT, AND AS NOTED ON PLANS.

DUCT SEALANT: PROVIDE WATER BASED SYNTHETIC LATEX EMULSION PERMANENTLY FLEXIBLE HIGH VELOCITY DUCT SEALANT, DUCTM, ATE INDUSTRIES, INC. PRO SEAL OR EQUIVALENT. SEALANT TO BE LOW VOC LEED COMPLIANT CAPABLE OF 15" W.G., NFPA 90A AND 90B APPROVED, UL 181B-M LISTED AND UL 723 CLASSIFIED. INSTALL PER MANUFACTURER INSTRUCTIONS. SEALANT SHALL BE APPROVED FOR PLENUM INSTALLATIONS AND MEET FLAME SPREAD AND SMOKE DEVELOPMENT RATINGS FOR PLENUM APPLICATIONS.

SHEET METAL DUCT

SHEETMETAL DUCTWORK: PROVIDE SHEETMETAL DUCTWORK FABRICATED AND INSTALLED IN ACCORDANCE WITH ASHRAE AND SMACNA STANDARDS, FOR 2" W.G. PRESSURE CLASS, SEAL CLASS "A" (UNLESS OTHERWISE INDICATED ON DUCT SYSTEM SCHEDULE). SHEETMETAL SHALL BE GALVANIZED SHEET STEEL OF LOCK FORMING QUALITY, WITH G90 ZINC COATING. SHEET STEEL SHALL COMPLY WITH ASTM A653 STANDARD SPECIFICATION FOR STEEL SHEETMETAL, ALL ANGLE IRON USED FOR SUPPORT SHALL BE GALVANIZED. SEAL ALL DUCT SEAMS, TRANSVERSE AND LONGITUDINAL, AIR TIGHT. PROVIDE TURNING VANES AT ALL 90° ELBOWS.

FLEXIBLE DUCT CONNECTORS: PROVIDE U.L. LABELED 30 OUNCE NEOPRENE COATED FIBERGLASS FABRIC DUCT CONNECTORS AT DUCT CONNECTIONS TO ALL VIBRATING EQUIPMENT.

TYPICAL CEILING DIFFUSER RUN-OUT DETAIL

5210 West River Dr NE-Suite C Comstock Park MI 49321 616-232-5817





560 5th St. NW Suite 305 Grand Rapids, MI 49504 www.bergmannpc.com



CARDINAL **ELEMENTARY CAFETERIA** ACOUSTICAL TREATMENT

2310 MARQUETTE AVE MUSKEGON, MI 49442

Date Revised 1-24-2023 1-31-2023

OWNER REVIEW BIDS

Description

CHRISTOPHER J. NOLAN, P.E. MI - REGISTRATION# 6201043863 EXP. DATE# 4/14/2023

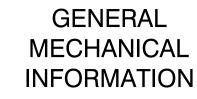
Copyright © Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.

Project Manager D HOLTROP Designer C SCHOLTEN Date Issued 01/31/2023

Discipline Lead **B HUYLER**

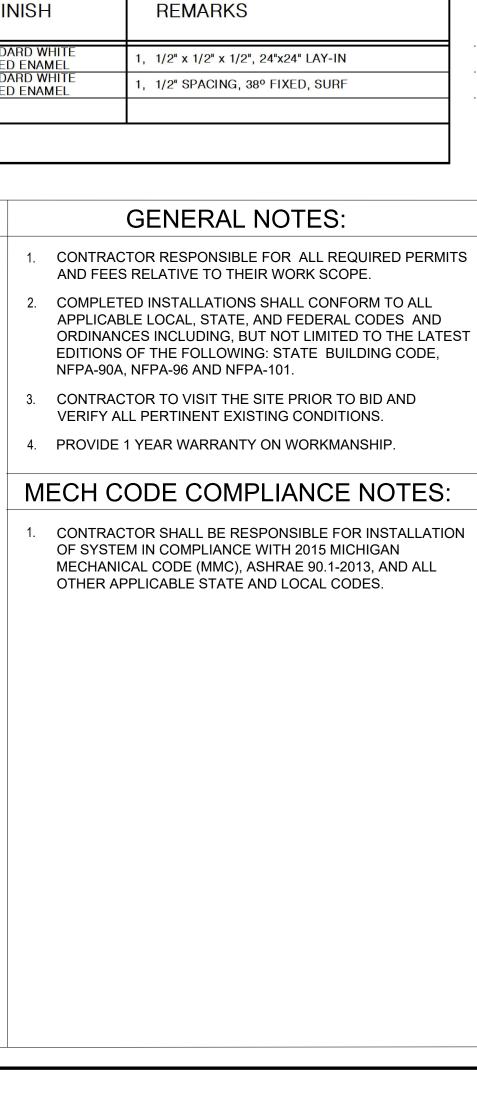
Reviewer C NOLAN Project Number 22013309A

Sheet Name



MOO1

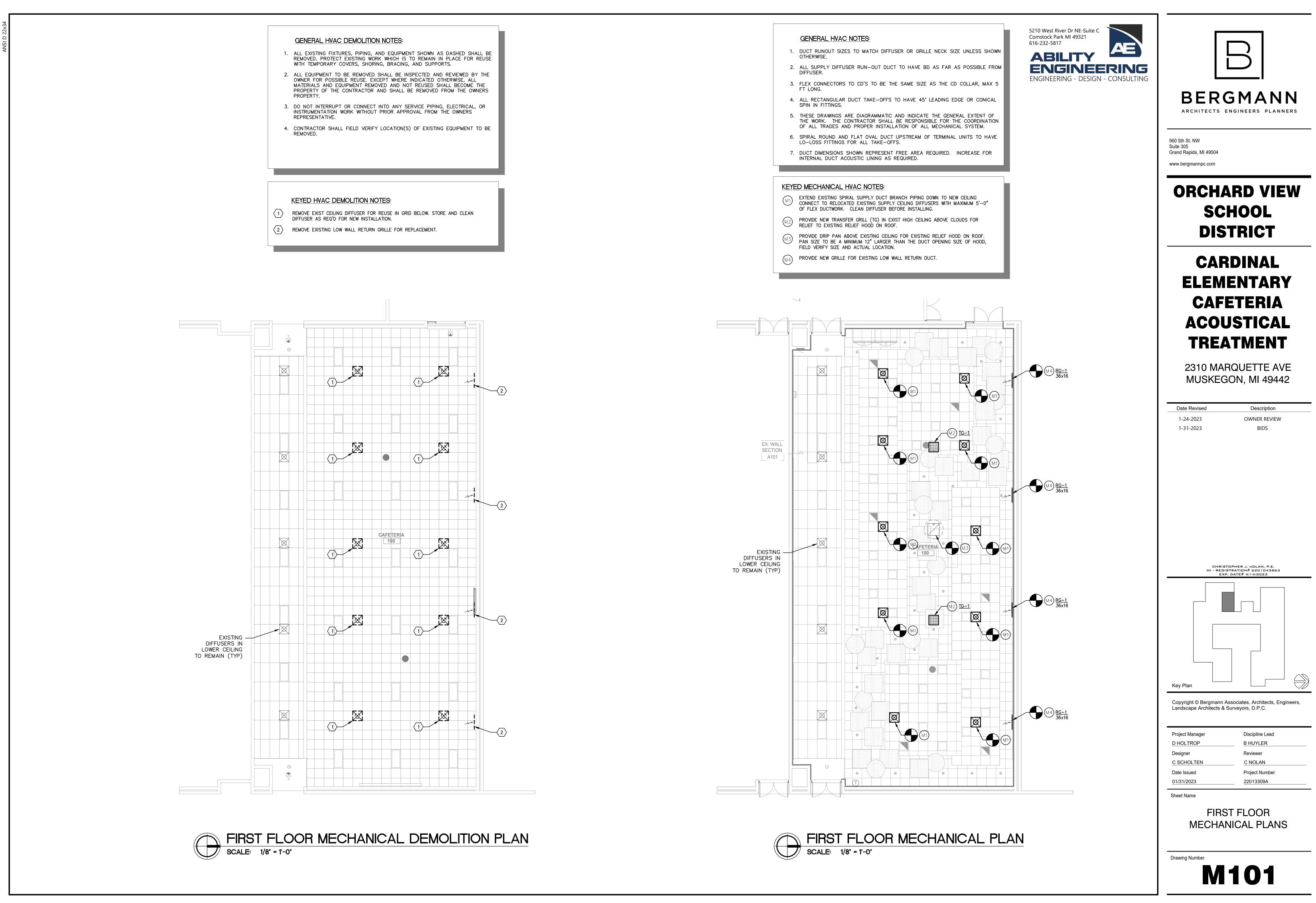
Drawing Number



- **HEATING** HEATING VENTILATING AND AIR CONDITIONING MECHANICAL CONTRACTOR MECHANICAL MANUFACTURER RETURN AIR GRILLE **INTERPICAL FRANSFER GRILLE**
- NITH NITHOUT

ANTITY DEVICE AIR DEVICE DESIGNATION K SIZE FLOW

CONNECTION OF NEW ONTO EXISTING



22X34									IATIONS							REFERENCE
n	INCHES	S BUILDING A SYSTEM	JTOMATION	DP DPR	DOUBLE POLE DAMPER	G GA	GUAGE	KW KWH	KILOWATT KILOWATT HOUR	NF NFDS	NON-FUSED NON-FUSED SAFETY	(RE) RC	RELOCTATED EXISTING REMOTE CONTROL		TELEPHONE TERMINAL CABINET	
# &	NUMBER BA AND BI			DS	SAFETY DISCONNECT SWITCH	GAL GALV	GALLON GALVANIZED	L		NIC	DISCONNECT SWITCH NOT IN CONTRACT	RECPT REQD	RECEPTACLE REQUIRED	TV TVSS	TELEVISION TRANSIENT VOLT. SUR	
' 1P	FEET BF 1 POLE (2P, 3P, 4P ETC.) Bł		SHED CEILING	DT DWG	DOUBLE THROW DRAWING	GC GEN	GENERAL CONTRACTOR GENERATOR	LA LF	LIGHTING ARRESTOR LINEAR FOOR	NL	NIGHT LIGHT - WIRE AHEAD OF	RM RMS	ROOM ROOT MEAN SQUARE	TVTC	SUPPRESSION TELEVISION TERMINAL	
@	AT BL	DG BUILDING AS BUILDING M		F		GFI	GROUND FAULT PROTECTOR	LOC	LOCATE OR LOCATION	No.	SWITCH/CONTROL NUMBER	RR	REMOVE AND REPLAC	ТҮР	CABINET TYPICAL	
PL	PLATE	SYSTEM	CONCTRETE	(E)	EXISTING TO REMAIN	GFP	GROUND FAULT PROTECTOR	LTG	LIGHT LIGHTING	NPF NRTL	NORMAL POWER FACTOR NATIONALLY	RSC RTU	RIGID STEEL CONDUIT ROOF TOP UNIT	U		INDICATES DI SECTION APP
Y Ø	WYE BO	BOTTOM OF	CONCIRETE	(ER)	EXISTING TO BE RELOCATED	GND, G	GROUND	LTNG LV	LIGHTNING LOW VOLTAGE		RECOGNIZED TESTING LABORATORY	S		UC		INDICATES SI
Ø	DIAMETER C DELTA C/	AB CABINET		EC	ELECTRICAL CONTRACTOR	GRS	GALVANIZED RIGID STEEL (CONDUIT)	М		NTS	NOT TO SCALE	S/N S/S	SOLID NEUTRAL STOP/START	UE	UNDERGROUND ELECTRICAL	INDICATES DI SECTION APP
	CA	T CATALOG		EF EGC	EXHAUST FAN EQUIPMENT GROUND	GYP BD	GYPSUM BOARD	M/C	MOMENTARY CONTACT	NW	NORMAL WEIGHT	50	PUSHBUTTONS SURFACE CONDUIT	UG UGE	UNDERGROUND UNDERGROUND	
A A	AMPERE CI	3 CIRCUIT BR	EAKER	ELEC	CONDUCTOR ELECTRIC, ELECTRICAL	H HID	HIGH INTENSITY	mA MAG.S	MILLIAMPHERE MAGNETIC STARTER	O OC	ON CENTER	SD	REMOTE CONTROL	UGT	ELECTRICAL UNDERGROUND	
ABC AC	ABOVE COUNTER	CTV CLOSED CIF TELEVITION		ELEV EMERG	ELEVATOR EMERGENCY	НОА	DISCHARGE HANDS-OFF-AUTOMATIC	MAX MC	MAXIMUM MECHANICAL	OCPD	OVERCURRENT PROTECTION DEVICE	SEC SF	SECONDARY SUPPLY FAN	UH	TELEPHONE UNIT HEATER	
AC ACLG	ALTERNATING CURRENT CL ABOVE CEILING CL	CURRENT L	MITING	EMERG	ENERGY MANAGEMENT SYSTEM	-	SWITCH HORIZONTAL	MCB	CONTRACTOR MAIN CIRCUIT BREAKER	OH Ol	OVERHEAD OVERLOADS	SHT SIM	SHEET SIMILAR	UON	UNLESS OTHERWISE NOTED	# KEYNOTE IN
AF	AMPERE FRAME RATING CI ABOVE FINISH CEILING CI	.G CEILING // CEILING MC	UNTED	EMT	ELECTRICAL METALLIC	HORIZ HP	HORSEPOWER	MCC	MOTOR CONTROL CENTER	0L	OVEREDADS	SP SPD	SPARE SURGE PROTECTION	UTIL UV	UTILITY UNIT VENTILATOR OR	
AFC AFF	ABOVE FINISH FLOOR	IPR COMPRESS	OR	EP	TUBING ELECTRICAL PHEUMATIC	HPF HT	HIGH POWER FACTOR HEIGHT	MDP	MAIN DISTRIBUTION PANEL	P P	POLE	SPEC	DEVICE	01	ULTRAVIOLET	
AFG AFI	ARC FAULT CIRCUIT	OMB COMBINATION CONNECTION		EPO EQUIP	EMERGENCY POWER OFF EQUIPMENT	HTG HTR	HEATING HEATER	MFR MFS	MANUFACTURER MAIN FUSED	PA PB	PUBLIC ADDRESS PULL BOX OR PUSH	SPKR	SPEAKER	V		
AHJ	ATHORITY HAVING	ONST CONSTRUC	TION	ES ETR	END SWITCH EXISTING TO REMAIN	HV HVAC	HIGH VOLTAGE HEATING, VENTILATION		DISCONNECT SWITCH	PC	BUTTON PLUMBING CONTRACTOR	SQ. FT. SR	SQUARE FOOT SURFACE RACEWAY	V V.I.F.	VOLT VERIFY IN FIELD	
AHU	AIR HANDLING UNIT	ONT CONTINUAT CONTINUOL	IS	EUH EWC	ELECTTRIC UNIT HEATER	HWP	AND AIR CONDITIONING HYDRONIC WATER PUMP	MH MIC	MANHOLE MICROPHONE	PE PED	PHOTO ELECTRIC CELL PEDESTAL	SS	STAINLESS STEEL OR SAFETY SWITCH	VA VDT	VOLT-AMPERES VIDEO DISPLAY TERMIN	NAL
AL/ALUM ALT	ALUIVIIINUIVI	ONT CONTIINUO ONV CONVECTO			COOLER	HVP HZ	HERTZ	MIN MISC	MINIMUM MISCELLANEOUS	PF	POWER FACTOR	SSW ST	SELECTOR SWITCH SINGLE THROW	VERT VFC	VERTICAL VARIABLE FREQUENCY	
AM	AMMETER CI	CIRCULATIO	ON PUMP OR ANEL	EWH	ELECTTRIC WATER HEATER	I		MLO MOA	MAIN LUGS ONLY MULTIOUTLET ASSEMBL	PH Y PIV	PHASE POST INDICATING VALVE	STA STD	STATION STANDARD	VFD	CONTROLLER VARAIBLE FREQUENCY	
AMP AMPL	AMPERE CF AMPLIFIER CT		AY TUBE RANSFORMER	EXH EXP	EXHAUST EXPLOSION PROOF	IC IG	INTERRUPTER CAPACITY ISOLATED GROUND	MSBD	MAIN SWITCHBOARD	PNL PP	PANEL POWER POLE	SURF	SURFACE MOUNTED		DRIVE	
ANNUN APPROX		R CENTER OR		F		IMC	INTERMEDIATE METAL CONDUIT	MT MT.C	MOUNT EMPTY CONDUIT	PR PRI	PAIR PRIMARY	SW SWBD	SWITCH SWITCHBOARD	VM VOL	VOLTMETER VOLUME	
AQ-STAT ARCH	AQUASTAT CI ARCHITECT,	J COPPER		F FA	FUSED FIRE ALARM	INC	INCANDESCENT	MTR MTS	MOTOR, MOTORIZED MANUAL TRANSFER	PROJ	PROJECTION	SWGR SYM	SWITCHGEAR SYMMETRICAL	W		
AS	ARCHITECTURAL D AMP SWITCH RATING D	DIRECT CU	RENT	FACP	FIRE ALARM CONTROL PANEL	IR	INFRARED	MV	SWITCH MEDIUM VOLTAGE	PRV	POWER ROOF VENTILATOR	SYS	SYSTEM	W W/	WATT OR WIRE WITH	
AT	AMP TRIP RATING			FBO	FURNISHED BY OTHERS	J J-BOX, JB	JUNCTION BOX	N		PT	POTENTIAL TRANSFORMER	Τ		W/O	WITHOUT	
ATS	SWITCH	DCP DIRECT DIG CONTROL P		FCU FIXT	FAN CONTROL UNIT FIXTURE	к		(N)	NEW WORK	PVC	POLYVINYL CHLORIDE (CONDUIT)	T-STAT TEL	THERMOSTAT TELEPHONE	W/SF	WATTS PER SQUARE	
AUTO AUX	AUTOMATIC DI AUXILIARY DI	DUAL ELEM	ENT	FLOUR FLR	FLOURESCENT FLOOR	k K-FT	KIPS KIP-FOOT	N N.C.	NEUTRAL NORMALLY CLOSED	PWR	POWER	TEL/DATA TERM	TELEPHONE/DATA TERMINAL	WG WH	WIRE GUARD WATER HEATER	
AV AWG	AUDIO VISUAL DE AMERICAN WIRE GAUGE DE	T DETAIL	NI	FU FUDS	FUSE FUSED SAFETY	K-F I kcmil	THOUSAND CIRCULAR	N.O. NEC	NORMALLY OPEN NATIONAL ELECTRICAL	Q QUAN	QUANTITY	TL TP	TWIST LOCK TAMPER RESISTANT	WP	WEATHERPROOF	
P	DI	A DIAMETER SC DISCONNEC	т		DISCONNECT SWITCH	kV	MILLS (MCM) KILOVOLT	NEMA	CODE NATIONAL ELECTRICAL	D		TS	TIME SWITCH	X XFMR	TRANSFORMER	
В В/	BOTTOM OF DI		NC	FVNR	FULL VOLTAGE NON-REVERSING	KVA KVAR	KILOVOLT-AMPHERE KILOVOLT-AMPERE		MANUFACTURER'S ASSOCIATION	R (R)	REMOVE	TTB	TELEPHONE TERMINAL BOARD	XFR	TRANSFER	
							REACTIVE									
		BOWER								CTRICAL	SYMBOL LIST	CIONAL				
	LIGHT LINE WEIGHT INDICATES EXISTI REMAIN OR PROVIDED BY OTHERS.	IG ITEMS TO	POWE	ER POLE		POWER					0V,20A, NEMA 5-20R UNLESS	SIGNAL ##	"DI" DOOR INTERLO		<u>SITE</u> EX	TERIOR WALL MOUNTED LIGHTING
	HEAVY LINE WEIGHT INDICATES ITEMS	то ве		ING ARRESTOR			FUSE			OTED OTHERWISE	E 20V,20A, NEMA 5-20R UNLESS		"DO" ELECTRIC DOC "EH" ELECTRIC HING	θE	HD2 FIX	TTER INDICATES FIXTURE TYPE ON XTURE SCHEDULE. NUMBER INDICA
	PROVIDED BY E.C. HEAVY DASHED LINE INDICATES ITEMS		210111				SAFETY DISC. SW. (NON-FUS	ED)		OTED OTHERWISE			"EL" ELECTRIC LATO "ES" ELECTRIC STR	KE		
F	REMOVED OR RELOCATED BY E.C.						25A 3P		"\		PROOF TYPE WITH WEATHER - HILE IN USE COVER		"PS" POWER SUPPL	OR FOR ACCESS CONT Y FOR ACCESS CONTR		TILITY SERVICE POLE
2a	LIGHT FIXTURE UPPER CASE LETTERS INDICATE FIXT				N CONDUCTOR SPLICE		SAFETY DISC. SW. (FUSED)		"(TYPE	AULT INTERRUPTER, 4-6mA		"RE" REQUEST TO E "R" RELAY "S" DOOR STATUS			MVE" UNDERGROUND MEDIUM ELECTRIC
	REFER TO LUMINAIRE SCHEDULE FOI LOWER CASE LETTERS INDICATE SW ARRANGEMENT. NUMBER INDICATES	TCHING	-	JND ROD JND ROD (PLAN VIE	=14/1		25A		"A	TO BOTTO	UNTER. 6" ABOVE COUNTER M OF DEVICE		"ML" MEGNETIC LOC "DC" DOOR CONTAC	K	"U ⁻ "U(
	CIRCUIT. "EM" OR SHADING INDICATE EMERGENCY LIGHTING.			· ·	- EXOTHERMIC WELD	<u></u>	3P		"L		TRY, RECESSED RECEPTACLE		"CR" CARD READER "KP" KEYPAD		"U"	TV" UNDERGROUND CABLE TE (CATV OR CCTV)
2 ⁺ a 2 a	EMERGENCI LIGHTING.			JND TEST WELL		VFC	VARIABLE FREQUENCY CONT	ROLLER	"[CABINETRY	WITHIN DRINKING FOUNTAIN Y. COORDINATE MOUNTING		"WAP" WIRELESS ACC	ESS POINT	"UF	FIBR" UNDERGROUND FIBER OP
	EXIT SIGN LIGHT - WALL, CEILING OR MOUNTED. LETTERS INDICATE FIXTU		2						""		FIELD USING APPROVED TURER CUT SHEETS	۲COP _F	CCTV CAMERA F=FIXED, F	P=PAN, T=TILT, Z= ZOOI		E" AERIAL ELECTRIC LINE HT" OVERHEAD TELEPHONE
	TYPE. REFER TO LUMINAIRE SCHEDU DETAILS. ARROWS INDICATE DIRECTI	ON, SHADING			TO STEEL OR STRUCTURE		BUS DUCT WITH PLUG UN DIS			JSB" - WITH USB JSB-C" - WITH USB		HS S	SPEAKER (WALL OR CEILIN		"OI	HE" OVERHEAD ELECTRIC
'X1' 'X1'	INDICATES NUMBER OF FACES.	CLNG	⊥ "FA" - F	TION BOX CEILING/ FURNITURE POWE				,	-, "T	R" - TAMPER RE			NURSE CALL DOME LIGHT	,	#### CON	NTROL UNIT (PANEL)
₩ ₩	EXIT SIGN LIGHT WITH EMERGENCY L LETTERS INDICATE FIXTURE TYPE. RE	FER TO	"DA" - I	FURNITURE DATA			CONDUIT CONCEALED IN WA CONDUIT SHOWN WITHOUT S	SLASH MARKS					NURSE CALL EMERG. STAT	-		"AMP" AMPLIFIER RACK "FAA" FIRE ALARM ANNUNCIA"
	LUMINAIRE SCHEDULE FOR DETAILS. INDICATES NUMBER OF FACES.	SHADING		HAND DRYER			SHALL CONTAIN 2 #12 & 1#12 3/4" CONDUIT UNLESS SPECI REQUIRES A DIFFERENT SIZE	FIC EQUIPMENT	ff s	PLIT DUPLEX RECE		+	NURSE CALL DUTY STATIO			"FACP" FIRE ALARM CONTROL F "NAC" NOTIFICATION CIRCUIT BOOSTER EXTENDER P.
	DOCK LIGHT	BGB		DING GROUND BAR			REQUIRES A DIFFERENT SIZE				RECEPT (DUPLEX) SENCY CKT (DUPLEX)	+	NURSE CALL STAFF STATIO	DN		BOOSTER EXTENDER P
'T <u>1'▽ 'T1'</u> ▽ 'TR1'	TRACK AND TRACK LIGHT	TGB -	DOILD	COM GROUND BAR		_+++++	CONDUIT SHOWN WITH SLAS CONTAIN 1#12 CONDUCTOR I				EPT. 120V,20A, NEMA 5-20R		NURSE CALL PATIENT PUL NURSE CALL SINGLE PATIE			ERFACE AND SUPERVISORY DEVICE "DH" DOOR HOLDER
	EMERGENCY LIGHT HEADS - SINGLE						3/4" CONDUIT UNLESS THE CONDUIT SIZE ARE SHOWN A	ONDUCTOR SIZE A	AND TU	NLESS NOTED OTH	HERWISE EPTACLE ON EMERGENCY	+\$ +\$~	NURSE CALL SINGLE PATIEN			"EOL" END OF LINE "F" MANUAL PULL STATION
	DOUBLE HEADS	1004	('		RD / DISTRIBUTION PANEL / ARD. SURFACE MOUNTED.		SLASH MARKS. SLASH MARK SHORT STRAIGHT=PHASE CO	INDICATORS ARE		IRCUIT		NCM	NURSE CALL MASTER STA			"WF" FLOW DETECTOR "VS" VALVE SUPERFISORY SWIT
	EMERGENCY BATTERY LIGHTING UNI OF LOCAL SWITCHING		√ 3Ø,4W	FLUSH MOL			STRAIGHT=NEUTRAL CONDU ENDED=SWITCH LEGS, LONG	STRAIGHT WITH		40 VOLT RECEPT. LOOR RECEPT. (DL	UPLEX SHOWN)		NURSE CALL EQUIPMENT (NURSE CALL ANNUNCIATO		\/ ##	ALARM INDICATION DEVICE
	LIGHT ON CORD REEL						DOT=GROUND CONDUCTOR.		0 _			\$ ^V	VOLUME CONTROL			AIM" ADDRESSABLE INPUT MODU AOM" ADDRESSABLE OUTPUT CON
S	LIGHT SWITCH 20A, 120/277V " " SINGLE POLE						CONDUIT CONCEALED		ф ^к	ECEPT ON DROP C	CORD (DUPLEX SHOWN)	H	HUMIDISTAT THERMOSTAT		"+	H" HEAT DETECTION TYPE "R/F" = COMBINATION
	"K" KEY OPERATION "3" 3-WAY OPERATION						CONDUIT EXPOSED		R	ECEPT ON CORD R	REEL (DUPLEX SHOWN)		TELEPHONE OUTLET BOX			TEMPERTURE "F" = FIXED TEMPE
	"LVS" LOW VOLTAGE "WP" WEATHER PROOF		52 » Medil	JM VOLTAGE DRAN	WOUT CIRCUIT BREAKER				Ψ				TWO GANG JUNCTION BOX STUBBED TO 6" ABOVE NE	AREST ACCESSIBLE		"R" = RATE OF RISE S" SMOKE DETECTOR/SENSOR "I" = IONIZATION
	"4" 4-WAY OPERATION "a" SWITCHING ARRANGEMEI	лт — — — — — — — — — — — — — — — — — — —	Sector DRAW	VOUT CIRCUIT BRE	AKER	0	CONDUIT TRANSITION UP			PECIAL RECEPTAC ATING AS INDICATE	CLE. NEMA CONFIGURATION AND		CEILING, NYLON BUSHING ALL RACEWAYS. ALL CABL			"P" = PHOTOELECT "BR" = BEAM RECEIV
	"T" TIMER "P" PILOT LIGHT		»— DRAW	VOUT CIRCUIT BRE	AKER SPACE		CONDUIT STUBBED OUT		P&S P				TESTING BY OTHERS. DATA OUTLET BOX		ı, "C	"BT" = BEAM TRANS SS" SMOKE DETECTOR SINGLE S
S ^{##}	"OS" DUAL TECHNOLOGY WALL OCCUPANCY SENSOR	SWITCH TYPE	XXA XP MOLD	DED CASE CIRCUIT	BREAKER		HEAT TRACE WIRING			IN & SLEEVE CONN	NECTOR / RECEPTACLE		TWO GANG JUNCTION BOX STUBBED TO 6" ABOVE NE			KE DETECTOR/SENSOR FOR DUCT
	"D/OS" DUAL TECHNOLOGY WALL OCCUPANCY SENSOR WI		ENCL	OSED CIRCUIT BRE	EAKER		HOMERUN TO PANEL BOARD		$ \Psi _{D}$	ONNECTION TO EC	QUIPMENT ENT SCHEDULE FOR DETAILS		CEILING, NYLON BUSHING ALL RACEWAYS. ALL CABL	ON CONDUIT END, AND		TROUBLE
	DIMMING "OS1" DUAL RELAY WALL SWITC		TRAN	SFORMER			PANEL NAME. ARROWS INDIC 2.4 CIRCUITS. NUMBERS INDICAT	ATE NUMBER OF	IE	QUIPMENT PLUG		_	TESTING BY OTHERS. COMBINATION TELE/DATA		□ ∇ CD	BINATION HORN/VISIBLE
	OCCUPANCY SENSOR "OS2" INFRARED WALL SWITCH					LPB - 2	DESIGNATIONS IN PANEL.		⊢⊨ ⊖ M	ULTIPLE SERVICE	OUTLET	V	TWO GANG JUNCTION BOX STUBBED TO 6" ABOVE NE.	WITH 1 " CONDUIT		CD" CANDELA RATING/SETTING
	OCCUPANCY SENSOR "D" 0-10V WALL SWITCH DIMM	ER		RATOR									CEILING, NYLON BUSHING ALL RACEWAYS. ALL CABL	ON CONDUIT END, AND		CD CANDELA RATING/SET
	"VS"WALL SWITCH TYPE VACA"D/VS"WALL SWITCH TYPE VACA	NCY SENSOR	SF-1 MOTC							IULTIPLE SERVICE			TESTING BY OTHERS.			"C" = CEILING MOUNT N ONLY
	"D/S" WITH 0-10V DIMMING "D/S" WALL POD WITH PRESET	SCENES AND	MANU OVER		ER WITH THERMAL					IULTIOUTLET ASSE	EMBLY / PLUGMOLD		TELEVISION OUTLET CEILIN MULTIPLE SERVICE FLR OL			AKER ONLY - WALL MOUNT
_	0-10V DIMMING		MAG.	MOTOR STARTER	OR CONTACTOR				Ê E	MERGENCY OFF PI	USH BUTTON		MULTIPLE SERVICE FLR OU MULTIOUTLET ASSEMBLY	161	"(C" CEILING MOUNT
OS	OCCUPANCY SENSOR - CEILING MOU "A" - 1000 SQ. FT. COVERAGE	NTED	Соме	3. MOTOR STARTE	, , , , , , , , , , , , , , , , , , ,							p q q q	CLOCK (WALL MOUNT)			
a 1	"B" - 2000 SQ. FT. COVERAGE "C" - HALLWAY TYPE			3. MOTOR STARTE	R (FUSED)											OTE INDICATOR D
						1							CABLE TRAY. "FS" INDICAT	STIKE STOP LOCATIO		
	"W"- WALL MOUNTED		ζLĮ									FS				CD - CANDELA RATING / SE
	VACANCY SENSOR - CEILING MOUNT "A" - 1000 SQ. FT. COVERAGE	ED S S S S S S S S S S S S S S S S S S S			R WITH RESET BUTTON,							FS SITE	CONDUIT SLEEVE			CD - CANDELA RATING / SE D VISIBLE ONLY (STROBE) EMERC
N 0.	VACANCY SENSOR - CEILING MOUNTI	ED A	COME		R WITH RESET BUTTON, ATOR, AND INDICATOR							SITE 'LA'	POLE WITH STANCHION M		[⊥] ^{CD}	CD - CANDELA RATING / SE
	VACANCY SENSOR - CEILING MOUNTI "A" - 1000 SQ. FT. COVERAGE "B" - 2000 SQ. FT. COVERAGE													RE TYPE ON LIGHTING	СD _≫ СI н	CD - CANDELA RATING / SE D VISIBLE ONLY (STROBE) EMERO CEILING

AM

LS A LIGHT LEVEL SENSOR - TYPE DENOTED

ERENCE SYMBOLS

- EQUIPMENT IDENTITY (SEE MECH EQUIPMENT ABBREVIATION LIST). EQIUPMENT NUMBER SYSTEM NUMBER (IF APPLICABLE) **INDICATES PLAN & DETAIL NUMBER** INDICATES DRAWING ON WHICH
- SECTION APPEARS INDICATES SECTION NUMBER INDICATES DRAWING ON WHICH SECTION APPEARS

INDICATES MATCH LINE

KEYNOTE INDICATOR

KEYNOTE INDICATOR - DEMOLITION

REVISION CLOUD

MOUNTING HEIGHTS

(UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE TO CENTERLINE OF BOXES). CARD READER 42" AFF CLOCK HANGER OULETS 42" AFF EXIT LIGHTS - FLOOR 8" AFF TO BOTTOM OF SIGN, 4" FROM FRONT EDGE OF PROXIMITY SIGN TO DOOR FRAME. EXIT LIGHTS - WALL MOUNTED ABOVE DOORS (MAX. 96" AFF) FIRE ALARM HORN/STROBE 84" AFF FIRE ALARM PULL STATION 44" AFF 42" AFF LIGHT SWITCHES 72" MAX TO OPERATING MOTOR STARTERS HANDLE PANEL BOARDS (LIGHTING AND 72" MAX TO TOP CIRCUIT RECEPTACLE) BREAKER RECEPTACLE - TYPICAL 18" AFF (U.O.N.) SAFETY SWITCHES 72" MAX TO OPERATING HANDLE TELEPHONE - DATA OUTLET 18" AFF TELEPHONE - PAY STATION 48" AFF TELEPHONE - WALL TYPE 48" AFF NOTE: REFER TO ARCHITECTURAL DRAWINGS FOR ADA

LOCATIONS. ALL DEVICES TO BE MOUNTED WITHIN A RANGE OF 34" TO BOTTOM OF DEVICE BACKBOX TO 48" AFF TO TOP OF DEVICE BACKBOX. PREFERRED MOUNTING HEIGHT IS 48" AFF TO TOP OF DEVICE BACKBOX. CONTRACTOR TO MOUNT AT LOWER HEIGHT WITHIN THE LISTED RANGE TO OVERCOME ANY INTERFERENCES WHERE REQUIRED.

NOTE

NOT ALL SYMBOLS AND ABBREVIATIONS INDICATED APPEAR ONTHESE CONTRACT DRAWINGS. INDIVIDUAL DRAWINGS MAY HAVE SHEET LEGENDS FOR UNIQUE SYMBOLS AND FOR CONVENIENCE.

NTED LIGHTING FIXTURE. TURE TYPE ON LIGHTING UMBER INDICATES BRANCH

OUND ELECTRIC OUND MEDIUM VOLTAGE

OUND TELEPHONE UND COMMUNICATIONS UND CABLE TELEVISION CCTV) OUND FIBER OPTIC

ER RACK ARM ANNUNCIATOR RM CONTROL PANEL ATION CIRCUIT POWER R EXTENDER PANEL

VISORY DEVICES

RFISORY SWITCH

- DEVICE E INPUT MODULE E OUTPUT CONTROL MODULE
- TION TYPE COMBINATION RISE/FIXED
- TEMPERTURE FIXED TEMPERTURE
- RATE OF RISE ONLY CTOR/SENSOR
- IONIZATION PHOTOELECTRIC
- BEAM RECEIVER BEAM TRANSMITTER
- CTOR SINGLE STATION
- SOR FOR DUCT

IBLE G/SETTING PEAKER/VISIBLE LA RATING/SETTING

ING AND TEST SWITCH

STROBE) WALL / CEILING LA RATING / SETTING

STROBE) EMERGENCY WALL / LA RATING / SETTING

/ VISIBLE APPLIANCE

CO2 CARBON DIOXIDE DETECTOR

FIXTURE TYPE ON LIGHTING FIXTURE SCHEDULE.

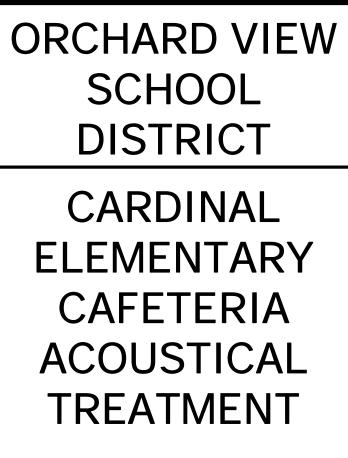
NUMBER INDICATES BRANCH CIRCUIT.

'Z'-

- **GENERAL NOTES:** MINIMUM CIRCUIT BREAKER SIZE FOR CONDUITS SHOWN ON PLANS IS 20A, 1 POLE FOR 120VAC UNLESS OTHERWISE NOTED/SHOWN ON PLANS MINIMUM BRANCH CIRCUIT WIRING SHALL BE #12 AWG. DERATE CONDUCTORS PER NEC FOR VOLTAGE DROP
- AND CONDUIT FILL. PROVIDE GROUNDING PER NEC (ARTICLE 250).
- PROVIDE A SEPARATE NEUTRAL CONDUCTOR FROM 4. PANELBOARD FOR EACH BRANCH CIRCUIT.
- CONTRACTOR SHALL COORDINATE WORK WITH ASSOCIATED TRADES.
- CONTRACTOR SHALL SEAL WITH AN APPROVED METHOD 6. ALL ELECTRICAL PENETRATIONS THRU FIRE FLOOR/PROOF/RATED WALLS, FLOORS, CEILINGS OR OTHER AREAS.
- 7. CONTRACTOR SHALL PROVIDE FUSES SIZED PER MANUFACTURERS RECOMMENDATIONS FOR ALL EQUIPMENT INSTALLED WITH FUSED STARTERS OR DISCONNECTS.
- ALL EXTERIOR PVC CONDUIT SHALL TRANSITION TO RGS CONDUIT WITHIN 18" OF FOUNDATION WALL PRIOR TO PASSING THRU THAT WALL.
- CONTRACTOR SHALL PROVIDE RACEWAY, WIRE, CABLE AND ASSOCIATED FITTINGS ALONG WITH COMPLETE CONNECTIONS REQUIRED FOR BRANCH CIRCUITS FROM DEVICES TO FINAL OVERCURRENT DEVICE AND LOCAL CONTROL DEVICE(S) PER PROJECT SPECIFICATIONS.
- 10. VERIFY EXACT LOCATION OF ELECTRICAL CONNECTION POINTS IN THE FIELD.
- CONDUIT SHALL BE CONCEALED WITHIN WALLS AND 11. CEILINGS WHERE POSSIBLE. SOME CONDUIT SYSTEMS SHALL BE EXPOSED DUE TO THE CONSTRUCTION OF THE BUILDING. CONTRACTOR SHALL STRIVE TO CONSOLIDATE CONDUITS AND ARRANGE IN A GEOMETRICALLY ALIGNED FASHION TO HAVE A LOW IMPACT ON THE AESTHETICS OF THE SPACE. CONDUIT SHALL BE ROUTED FROM THE CORRIDOR DIRECTLY INTO EACH ROOM, NOT ROUTED FROM ROOM TO ROOM. CONTRACTOR SHALL PROVIDE AND NOTIFY CONSULTANT FOR REVIEW OF THE INSTALLED CONDUIT LAYOUT EARLY IN THE PROJECT. CONDUIT INSTALLATION SHALL CONTINUE UPON CONSULTANT APPROVAL AND IS SUBJECT TO MODIFICATIONS AS THE CONSULTANT SEES FIT. EXPOSED CONDUITS SHALL BE PAINTED TO MATCH SURROUNDING CONDITIONS. REFER TO CONSTRUCTION COORDINATION REQUIREMENTS IN THE PROJECT SPECIFICATIONS.
- REFER TO LIFE SAFETY AND ARCHITECTURAL PLANS FOR 12. FIRE RATING REQUIREMENTS. BACKBOXES IN THESE AREAS SHALL HAVE A 1 HR MINIMUM UL LISTED FIRE RATING.
- 13. PROVIDE LIGHTING CONTROLS INCLUDING DEVICE ITSELF, CONDUIT, CONDUCTORS, 0-10V WIRING, POWER PACKS, SLAVE PACKS, CONNECTORS, AND OTHER ACCESSORIES FOR A COMPLETE AND OPERATIONAL SYSTEM.
- RECEPTACLES AND TELECOMMUNICATION BOXES SHALL 14. NOT LOCATED BACK-TO-BACK ON WALL. PROVIDE A MINIMUM OF 6" OF SEPARATION BETWEEN BOXES.



560 5th St. NW Suite 305 Grand Rapids, MI 49504 www.bergmannpc.com



2310 MARQUETTE AVE MUSKEGON, MI

Date Revised 1-24-2023

1-31-2023

Description OWNER REVIEW

BIDS

Copyright © Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.

Project Manager	Discipline Lead				
D HOLTROP	A ROBINSON				
Designer	Reviewer				
G ANSCHUTZ-CEJA	A ROBINSON				
Date Issued	Project Number				
01/31/2023	22013310A				

Sheet Name

LEGEND

E001

DIVISION 26

ELECTRICAL SPECIFICATIONS

DESCRIPTION OF WORK WORK SHALL INCLUDE BUT NOT NECESSARILY BE LIMITED TO THE FOLLOWING:

1. WIRING METHODS. 2. LIGHTING.

STANDARDS MATERIALS AND EQUIPMENT SHALL CONFORM TO THE REQUIREMENTS OF MBC, NEC, MIOSHA, NFPA, U.L., NEMA, A.D.A., AND RESPECTIVE PUBLICATIONS AND OTHER REQUIREMENTS SPECIFIED BELOW. ALL

MATERIALS AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH RECOMMENDATIONS OF THE MANUFACTURER.

<u>CODES AND ORDINANCES</u> COMPLY WITH ALL CODES AND ORDINANCES. BIDDERS SHALL INFORM THEMSELVES OF CODE REQUIREMENTS.

PERMITS, INSPECTION FEES, AND CODES THE CONTRACTOR SHALL OBTAIN AND PAY ALL PERMIT AND INSPECTION

FEES. FINAL INSPECTION CERTIFICATES BY THE LOCAL ELECTRICAL INSPECTOR AND FIRE MARSHAL SHALL BE OBTAINED BY THE CONTRACTOR AND TURNED OVER IN DUPLICATE TO THE OWNER.

SUBMISSIONS SUBMIT PRODUCT DATA, SHOP DRAWINGS, WIRING DIAGRAMS, AND DESCRIPTIVE LITERATURE ON ALL MATERIALS AND EQUIPMENT. MAKE SUBMITTALS WITHIN THIRTY (30) DAYS AFTER THE SIGNING OF THE CONTRACT. SHIPMENT SHALL NOT BE RELEASED UNTIL DRAWINGS AND LITERATURE HAVE BEEN FINALLY APPROVED.

AS-BUILTS - OPERATION & MAINTENANCE MANUALS PROVIDE FOR EACH SYSTEM AND EQUIPMENT AS SPECIFIED FOR USE BY

OPERATION AND MAINTENANCE PERSONNEL. THE OPERATING INSTRUCTIONS SHALL INCLUDE:

- WIRING DIAGRAMS, CONTROL DIAGRAMS, AND CONTROL SEQUENCE FOR EACH SYSTEM AND ITEM OF EQUIPMENT. • START-UP, PROPER ADJUSTMENT, OPERATING, LUBRICATION,
- AND SHUTDOWN PROCEDURES. SAFETY PRECAUTIONS
- THE PROCEDURE IN THE EVENT OF EQUIPMENT FAILURE OTHER ITEMS OF INSTRUCTION AS RECOMMENDED BY THE MANUFACTURER OF EACH SYSTEM OR ITEM OF EQUIPMENT.

IDENTIFICATION OF SYSTEMS OPERATING INSTRUCTIONS: PRINT OR ENGRAVE INSTRUCTIONS AND FRAME UNDER GLASS OR APPROVED LAMINATED PLASTIC. POST INSTRUCTIONS IN VIEW OF EQUIPMENT. PROVIDE WEATHER RESISTANT MATERIALS FOR EXTERIOR APPLICATIONS.

EQUIPMENT: PROVIDE NAMEPLATE FOR ALL EQUIPMENT IT SHALL BE A SELF-ADHESIVE, ENGRAVED, LAMINATED ACRYLIC OR MELAMINE LABEL. PROVIDE ADHESIVE BACK, WITH WHITE LETTERS ON A DARK GRAY BACKGROUND. MINIMUM LETTER HEIGHT SHALL BE 3/8-INCH.

WARNING SIGNS: PROVIDE A SELF-ADHESIVE WARNING LABEL THAT IS FACTORY PRINTED, MULTI-COLOR, PRESSURE SENSITIVE, ADHESIVE LABEL. COMPLY WITH N.E.C. 70 AND 29 CFR 1910.145. LABELS FOR MULTIPLE POWER SOURCES SHALL READ: "DANGER – ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES". LABELS FOR ALL OTHER EQUIPMENT REQUIRING WORKSPACE CLEARANCES SHALL READ: "WARNING – OSHA REGULATION – AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36-INCHES".

CONTRACTOR SHALL PROVIDE IDENTIFICATION ON ALL DEVICES. PROVIDE WHITE LABEL WITH BLACK LETTERING AND LOCATE ON DEVICE UNDER PLATE. CONTRACTOR SHALL IDENTIFY DEVICE WITH PANEL AND

CIRCUIT NUMBER FEEDING DEVICE.

PROVIDE GUARANTEE FOR ALL LABOR AND MATERIALS FOR ONE (1) YEAR AFTER OWNER'S WRITTEN ACCEPTANCE OF THE PROJECT.

LAYOUT OF THE WORK EXAMINE THE SITE AND ALL THE DRAWINGS BEFORE PROCEEDING WITH THE LAYOUT AND INSTALLATION OF THIS WORK. LOCATE ESSENTIALLY AS SHOWN ON THE DRAWINGS, BUT IN EXACT LAYOUT DETERMINED ON THE JOB. TO SUIT ACTUAL CONDITIONS. CONFER AND COOPERATE WITH OTHER TRADES ON THE JOB SO ALL PARTS WILL BE INSTALLED IN PROPER RELATIONSHIP. PRECISE LOCATION OF PARTS TO COORDINATE WITH OTHER WORK IS THE RESPONSIBILITY OF THE CONTRACTOR.

DEMOLITION CONTRACTOR SHALL REMOVE ALL EQUIPMENT AND MATERIAL AS INDICATED ON THE DEMOLITION PLAN. ALL REMOVED AND UNUSED LIGHTS AND EQUIPMENT SHALL BE TURNED OVER TO THE OWNER; ALL OTHER ITEMS SHALL BE REMOVED FROM THE SITE. EXISTING CONDUIT HOMERUNS MAY BE REUSED WHENEVER POSSIBLE. CONTRACTOR SHALL PATCH EXISTING WALL AND CEILING OPENINGS IN FINISHED AREAS UPON REMOVAL OF ELECTRICAL EQUIPMENT. CONTRACTOR SHALL ALSO PROTECT ALL EXISTING ELECTRICAL EQUIPMENT TO REMAIN DURING CONSTRUCTION PERIOD.

WIRE AND CABLE

ALL WIRING SHALL STRANDED COPPER AND INSTALLED IN CONDUIT, TUBING, OR SURFACE METALLIC RACEWAY. CONDUCTORS SHALL BE CONTINUOUS BETWEEN OUTLETS OF JUNCTION BOXES WITH SPLICES MADE ONLY WITHIN SUCH BOXES. SOLDERLESS PRESSURE-TYPE CONNECTORS PROPERLY INSULATED SHALL BE USED FOR ALL JOINTS. NO WIRE SMALLER THAN #12 MAY BE USED UNLESS SPECIFICALLY SPECIFIED UNDER DESCRIPTIONS OF SPECIAL SYSTEMS. ALL INDIVIDUAL BRANCH CIRCUITS AND SINGLE POLE BRANCH CIRCUITS SHALL HAVE INDIVIDUAL NEUTRALS. EACH NEUTRAL SHALL BE IDENTIFIED AT ALL JUNCTION BOXES AND TERMINALS SAME AS ITS CORRESPONDING BRANCH CIRCUIT NUMBER.

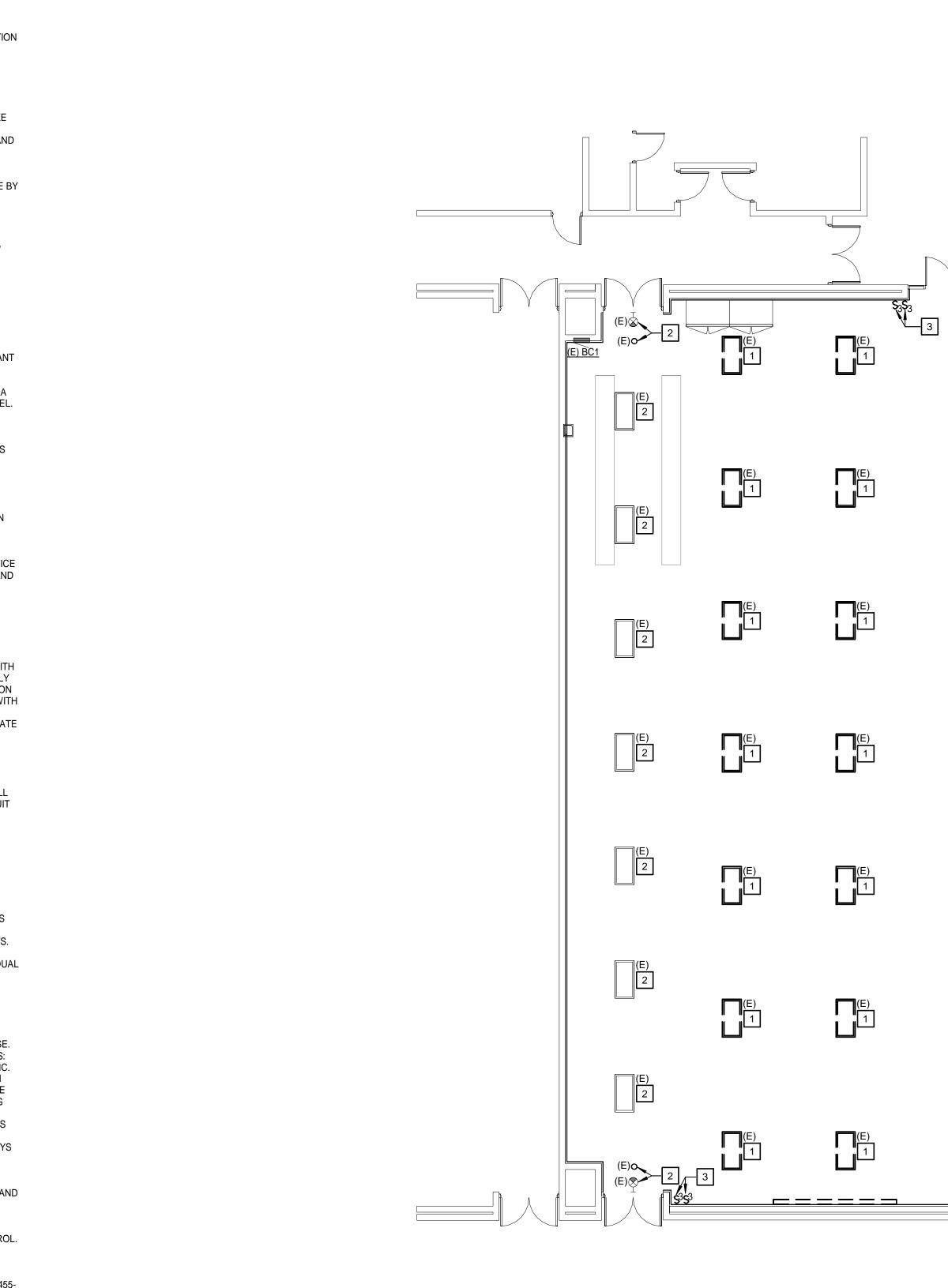
<u>CONDUIT</u> ALL CONDUIT SHALL BE 1/2-INCH MINIMUM UNLESS NOTED OTHERWISE. WIRING METHODS: INTERIOR EXPOSED/CONCEALED UNDER 2-INCHES: EMT, CONNECTIONS TO VIBRATING EQUIPMENT/LIGHT FIXTURES: LFMC. ALL CONDUIT AND WIRE IN FINISHED AREAS SHALL BE CONCEALED IN THE CONSTRUCTION WHERE PRACTICABLE. ALL RACEWAYS SHALL BE ROUTED WITHIN STRUCTURAL STEEL AND FURRED SPACES UTILIZING FACTORY MADE ELBOWS AS GOOD PRACTICE AND WORKMANSHIP ALLOWS. KEEP RACEWAYS AT LEAST 6-INCHES FROM PARALLEL RUNS OF FLUES, STEAM AND HOT WATER PIPING. INSTALL HORIZONTAL CONDUIT RUNS ABOVE WATER AND STEAM PIPING. INSTALL RACEWAYS LEVEL AND SQUARE AND AT PROPER ELEVATIONS.

LIGHTING FIXTURES ALL LIGHTING FIXTURES AND COMPONENTS THEREOF SHALL BE U.L. AND E.T.L. APPROVED.

WALL SWITCHES LOW VOLTAGE COMPATIBLE WITH LIGHT FIXTURES AND LIGHT CONTROL WALL PLATES

ALL DEVICE PLATES SHALL BE NON-CONDUCTIVE, THERMOPLASTIC, COLOR TO MATCH DEVICES, AND MEET FEDERAL SPECIFICATION WP455-

END OF DIVISION 26





KEYNOTES

- 1 DISCONNECT AND REMOVE LIGHT FIXTURE. REMOVE CONDUIT AND WIRE TO SOURCE.
- 2 LIGHT FIXTURE SHALL REMAIN.
- 3 DISCONNECT AND REMOVE DEVICE. REMOVE WIRE TO SOURCE. RECESSED BOX AND CONDUIT TO REMAIN.



560 5th St. NW Suite 305 Grand Rapids, MI 49504 www.bergmannpc.com



	2000.10
1-24-2023	OWNER REVIEW
1-31-2023	BIDS
Key Plan	

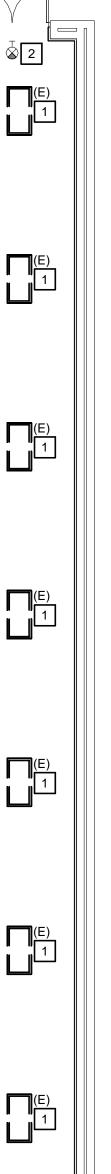
Copyright © Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.

Project Manager	Discipline Lead
D HOLTROP	A ROBINSON
Designer	Reviewer
G ANSCHUTZ-CEJA	A ROBINSON
Date Issued	Project Number
01/31/2023	22013310A

Sheet Name

ELECTRICAL DEMOLITION PLAN





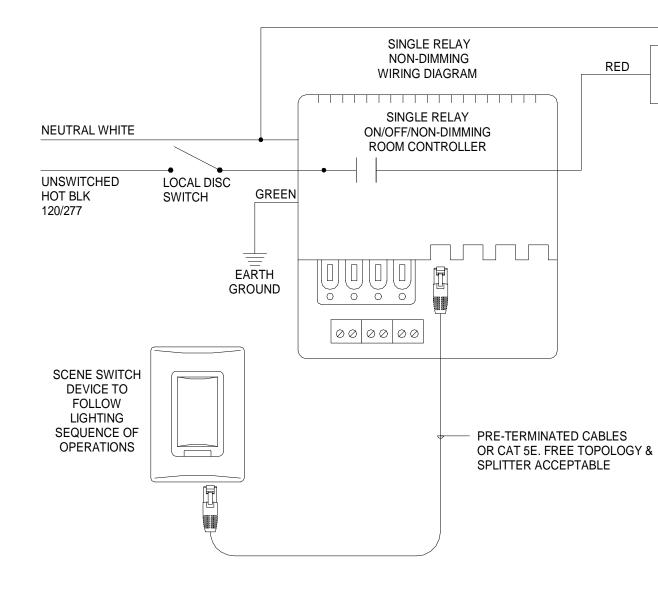
LUMINAIRE SCHEDULE								
TYPE	LAMP	MANUFACTURER	MODEL NUMBER	BALLAST/DRIVER	MOUNTING	INPUT WATTAGE	DESCRIPTION	NOTE
		LITHONIA	STAK-2X2-3000LM-80CRI-35K-COLT-MIN1-MVOLT-NLTAIR2-APDT					
^	3300 LUMEN,	METALUX	22CZ2-34-S-UNV-GL-L835-A3/8-5/18GDIM-CD-1-WAA	0.10)/	RECESSED	25W	2x2 TROFFER. PROVIDE INTEGRAL OCCUPANCY SENSOR AND	
A	3500K, LED	H.E. WILLIAMS	PT-22-L43/835-(L33)-RA-AVI-LVFA-CS2-PIR-DA-UNV	0-10V	CEILING GRID		DAYLIGHT HARVEST SENSOR. PROVIDE WIRELESS CONTROL INTERFACE.	
		COLUMBIA	LCAT22- 8-35-ML-G-ED-U-NXSW-FK24					
		LITHONIA	STAK-2X2-3000LM-80CRI-35K-COLT-MIN1-MVOLT-E7W-NLTAIR2-APDT		RECESSED CEILING GRID			
A E N A	3300 LUMEN,	METALUX	22CZ2-34-S-UNV-GL-L835-A3/8-5/18GDIM-EL7W-CD-1-WAA	0.401/		25W	2x2 TROFFER. PROVIDE INTEGRAL OCCUPANCY SENSOR AND DAYLIGHT HARVEST SENSOR. PROVIDE WIRELESS CONTROL INTERFACE. PROVIDE INTEGRAL 7W BATTERY.	
AEM	3500K, LED	H.E. WILLIAMS	PT-22-L43/835-(L33)-RA-EM/7W-AVI-LVFA-CS2-PIR-DA-UNV	0-10V				
		COLUMBIA	LCAT22- 8-35-ML-G-ED-U-ELL14-NXSW-FK24					
		GOTHAM	IC04CC-35/07-AR-LSS-60D-MVOLT-EZ1-JBX-CCAN-C120-NLTAIR2-DBL					
Р	750 LUMENS,	PRESCOLITE	LTC-4RD-P-06L-35K-8-WD-DM1-S-BC	0.401/		7.5W		
В	3500K, LED	DMF LIGHTING	DC4-C4-S-M-D-07-WF-0-00-00-35-BK-O-00-R	0-10V	SUSPENDED		4" CYLINDER PENDANT WITH A BLACK FINISH.	

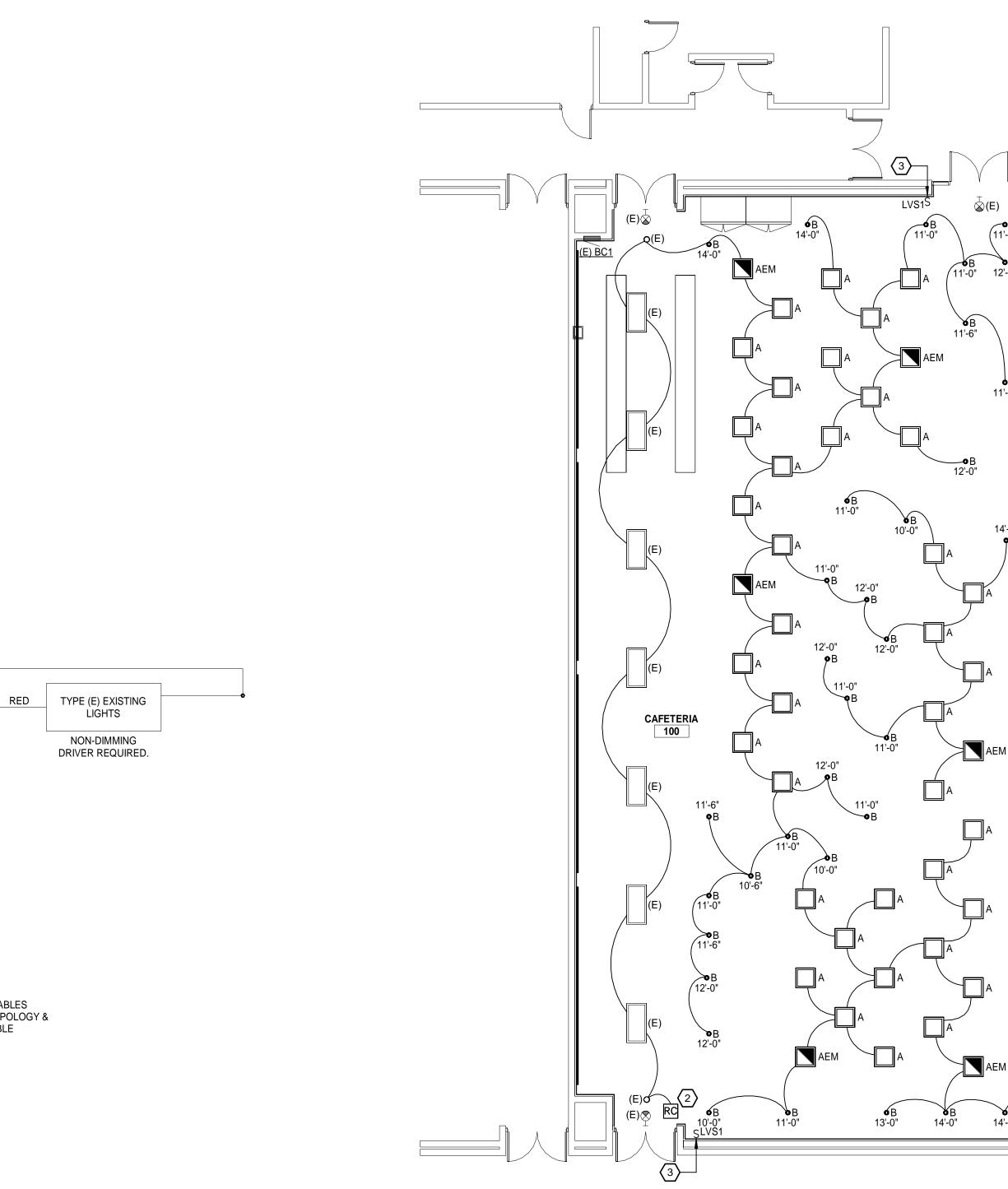
SEQUENCE OF OPERATION:

- 1. LIGHTING CONTROL INTENTION IS TO USE LIGHT FIXTURES WITH INTEGRATED CONTROLS AND ASSOCIATED LOW VOLTAGE SWITCHES, UNLESS NOTED OTHERWISE. DEVIATION FROM THIS SOLUTION SHALL MEET CONTROL INTENTIONS AND COORDINATED WITH ELECTRICAL CONTRACTOR FOR ADDITIONAL WIRING AND INSTALLATION.
- 2. ALL SWITCHES WITH "LVS#" ARE LOW VOLTAGE CONTROL STATIONS. PROVIDE ON/OFF BUTTONS, PRE-PROGRAMMED SCENES, INTEGRAL OCCUPANCY SENSING, AND/OR DIMMING CONTROL AS DESCRIBED BELOW PER SPACE.
- 3. ALL EMERGENCY FIXTURES SHALL BE PROGRAMMED TO FUNCTION WITH AREA NORMAL LIGHTS, UNLESS NOTED AS NIGHT LIGHTS. UPON LOSS OF POWER, EMERGENCY FIXTURES SHALL ILLUMINATE TO 100% OF RATED POWER.
- 4. COORDINATE COMMISSIONING OF SYSTEM PER LIGHTING, LIGHTING CONTROL, AND COMMISSIONING SPECIFICATIONS WITH OWNER'S AGENT AS REQUIRED PER STATE OF MICHIGAN ENERGY CODE.
- 5. CAFETERIA: A. AUTO ON TO 50%.
- B. AUTO OFF UPON 15-MINUTES OF NO ACTIVITY.
 C. LVS1 STATIONS SHALL INCLUDE BUTTONS:
- ALL ON
- 50% ILLUMINATION
- ALL OFF DIM UP
- DIM DOWN

ASHRAE/ENERGY CODE - LIGHTING POWER DENSITY (WATTS/SQ. FT.) 1. REMOVED LIGHTING WATTAGE:

- TYPE (E): QUANTITY: 21 WATTAGE PER FIXTURE: 85W 21 x 85W = 1,785W TOTAL REMOVED: 1,785W
- 2. NEW LIGHTING WATTAGE: TYPE A: QUANTITY: 38 WATTAGE PER FIXTURE: 25W
- 38 x 25W = 950W TYPE AEM: QUANTITY: 6 WATTAGE PER FIXTURE: 25W 6 x 25W = 150W
- TYPE B: QUANTITY: 33 WATTAGE PER FIXTURE: 7.5W 33 x 7.5W = 247.5W TOTAL NEW: 950W + 150W + 247.5W = 1,347.5W
- 3. LIGHTING POWER DENSITY (LPD): SQUARE FOOTAGE: 4,346 SQ. FT.
- TOTAL WATTAGE: 1,347.5W + 7 x 85W = 1,942.5W LPD = 1,942.5W / 4,346 SQ. FT. = 0.45 WATTS/SQ. FT.







KEYNOTES (#)

∕•E

11'-6

14'-0"

- 1 LIGHT FIXTURES TO BE CONNECTED TO ROOM CIRCUIT.
- 2 ROOM CONTROLLER SHALL TURN EXISTING LIGHTS ON/OFF VIA OCCUPANCY SENSORS INTEGRAL TO NEW FIXTURES.
- 3 PROVIDE NEW DEVICE IN EXISTING RECESSED BOX AND CONDUIT.



Copyright © Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.

Project Manager	Discipline Lead
D HOLTROP	A ROBINSON
Designer	Reviewer
G ANSCHUTZ-CEJA	A ROBINSON
Date Issued	Project Number
01/31/2023	22013310A

Sheet Name

LIGHTING PLANS

E101