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- GEN 03 - STRI 04 - ARCł A001 A002 A003 AD101 AD121 A101 A103 A121 A141 A201 A301 A302 A303 05 - MEC MD01 08 - ELEC

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ORCHARD VIEW SCHOOL DISTRICT COMMUNITY EDUCATION CENTER



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

www.bergmannpc.com



RENOVATIONS - BID PACKAGE NO. 1 1765 ADA AVENUE MUSKEGON, MI 49442

1/31/2023

DATE

12/14/2022 1/24/2023 1/31/2023

DESCRIPTION **BID PACKAGE - WINDOWS** BID PACKAGE #1 - QAQC/OWNER REVIEW BID PACKAGE #1 - BIDS



PROJECT SCOPE

RENOVATIONS TO COMMUNITY EDUCATION CENTER CONSISTS OF UPGRADES TO THE MAIN ENTRY NEW EXTERIOR WALL CLADDING, NEW CANOPY, NEW STEPS AND RAMP, AND NEW EXTERIOR WIN A PORTION OF THE FRONT EXTERIOR. INTERIOR RENOVATIONS INCLUDE RENOVATING THE ENTRY VESTIBULE, RENOVATING A FORMER CLASSROOM INTO A NEW MAIN OFFICE AREA AND RENOVAT TWO FORMER OFFICES INTO ONE OFFICE WITH NEW FINISHES. THE WORK ALSO INCLUDES A NEW PROVIDE HVAC TO THE NEW OFFICE AREA AND MINI-SPLIT UNITS TO THE REMAINDER OF THE BUIL THAT IS CURRENTLY NOT AIR CONDITIONED.

APPLICABLE BUILDING CODES

BUILDING CODE:

BUILDING CODE:	2015 MICHIGAN BUILDING CODE
	2015 MICHIGAN REHABILITATION CODE
BUILDING CODE (MI FIRE SAF	ETY STATE RULES): NFPA 11-2012
MECHANICAL CODE:	2015 MICHIGAN MECHANICAL CODE
ELECTRICAL CODE:	2015 NATIONAL ELECTRICAL CODE &
	MICHIGAN PART 8 ELECTRICAL RULES
PLUMBING CODE:	2018 MICHIGAN PLUMBING CODE
ENERGY CODE:	2015 MICHIGAN ENERGY CODE
ACCESSIBILITY:	BARRIER FREE - ICC / ANSI-117

BUILDING DATA

TOTAL BUILDING AREA: 34,845 SQ FT TOTAL RENOVATION AREA: 7,300 SQ FT

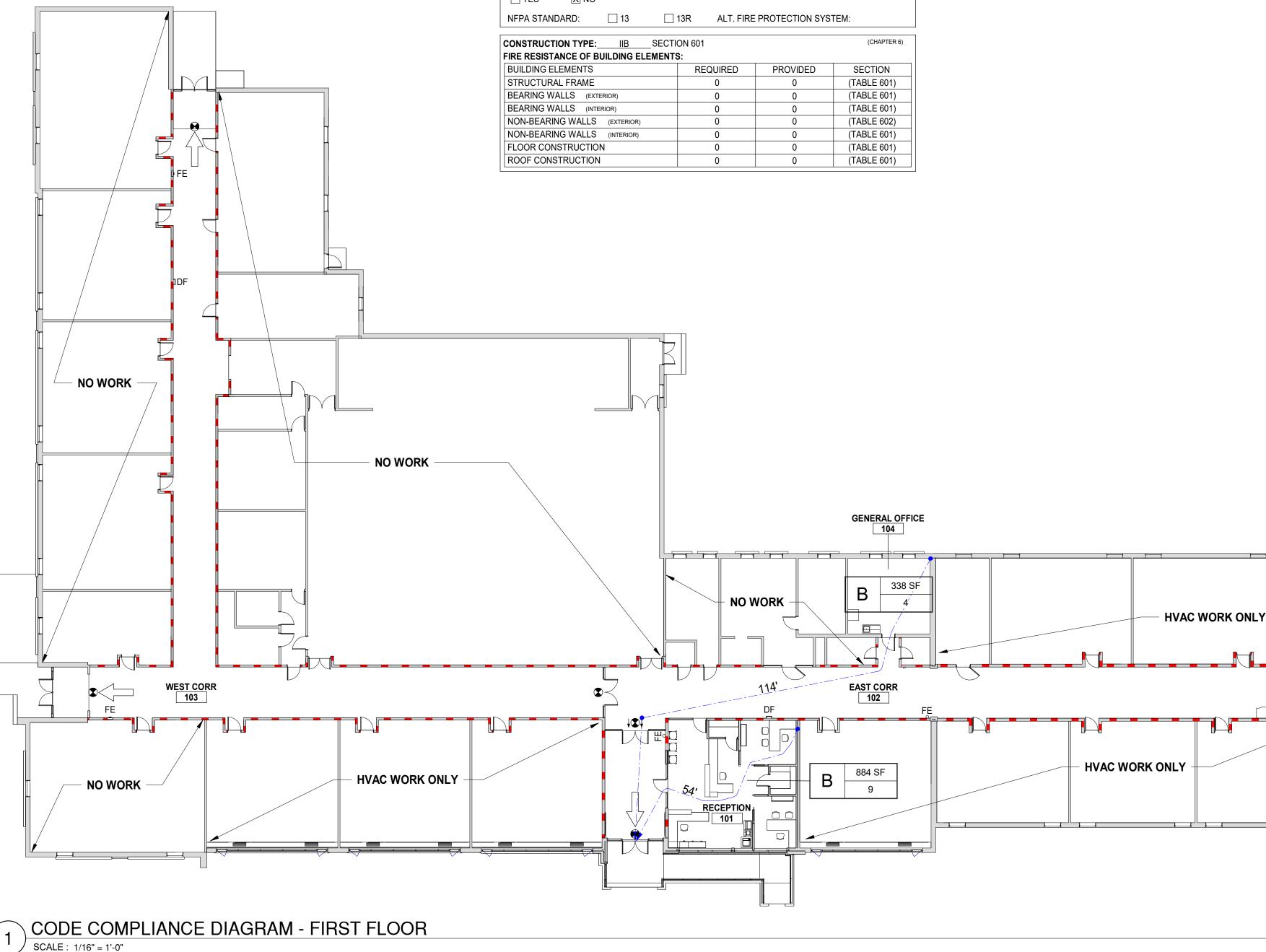
CONSTRUCTION TYPE = II-B "NON-COMBUSTIBLE" NON-SPRINKLERED

USE AND OCCUPANCY

BUILDING IS CLASSIFIED AS EDUCATIONAL "E" MBC SECTION 305.1

BUSINESS "B" MBC SECTION 304.1

AREAS OF RENOVATION ARE CLASSIFIED AS BOTH "E" AND "B"



SCALE : 1/16" = 1'-0"

BUILDING CODE SUMMARY

	PROJECT INFORM	IATIO	N:				
H	PROJECT NAME:		COMMUNITY EDU	JCATION	CENTER		
S AT	PROJECT NUMBE	016600.00					
	PREPARED BY:	EF	POST	(CHECKED BY	Y: D. HOLTROF	>
C	DATE:	1/1	1/23	r	DATE:	1/21/23	
	DATE.	1/1	1/25			1/21/25	
	PER THE 2015 MIC REPAIRS (CHAI ALTERATIONS ALTERATIONS ALTERATIONS CHANGE OF OU FORMER OC NEW OCCUP PARTIAL CH/ IF YES: ADDITIONS (C SEPARATED IF YES, FI HISTORIC BUIL RELOCATED BI ACCESSIBILITY SECTION 410 A OCCUPANCY CLA SINGLE MIXED OCCUPANCY IF SEPARATED OCCUPANCY CLA SINGLE MIXED OCCUPANCY USES: MUL AUTOMATIC SPR YES PARTIAL/LIMITED YES NFPA STANDARD	CHIG/ PTER & CHIG/ PTER & CHIC - LEV - LEV CCUF CUP/ ANCC ANGE ANCC ANGE ANCC ANGE CUP/ ANCC CUP/ ANCC ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CUP/ ANCC CO CO CO CO CO CO CO CO CO CO CO CO C	/EL 1 (CHAPTER 7) /EL 2 (CHAPTER 8) /EL 3 (CHAPTER 9) PANCY (CHAPTER 9) PANCY (CHAPTER 9) PANCY (CHAPTER 10) Y CLASSIFICATION(S COF OCCUPANCY: SEPARATED SEPARATED It ITION: ESISTENCE RATING (CHAPTER 12) NG NG (CHAPTER 13) GRADES: COMPLY W DDENDA CATION AND MIXED ACCES Y SEPAR E RESISTANCE RAT SIFICATION(S): E ENERATIONAL EDUC ER SYSTEM PROVID I 13 I) ON(S): S): NOT SEP: S: IITH OCCUP: SORY - C ATED ING OF F EDUCATIONAL CATIONAL DED THR TEM: 13R] YES ARATED] YES RE WALL RE BARRIER ANCIES: GROUP ; [X] NON-S GROUP ; [X] NON-S GROUP ; [X] NON-S GROUP ; [X] NON-S GIRE BARRIEF ONAL "E", BU PROGRAMI	X NO X NO X NO SEPARATED R: (TABLE 508.4) JSINESS "B" MING AND CARE	HR HR HR (CHAPTERS 3 & 5) AREA COMBINATION HR HR
	CONSTRUCTION T			ION 601			(CHAPTER 6)
	BUILDING ELEME		BUILDING ELEMENT	1	QUIRED	PROVIDED	SECTION
	STRUCTURAL FR						(TABLE 601)
	BEARING WALLS		TERIOR)		0	0	(TABLE 601)
	BEARING WALLS		ERIOR)		0	0	(TABLE 601)
	NON-BEARING W				0	0	(TABLE 602)
	NON-BEARING W				0	0	(TABLE 601)
	FLOOR CONSTRU				0	0	(TABLE 601)
	ROOF CONSTRU			+	0	0	(TABLE 601)

INTERIOR FINISH:			
WALL AND CEILING			
OCCUPANCY: B	USINESS		
FINISH CLASS	LOCATION		
XA	X EXITS	CORRIDORS/ EXIT ACCESS	ROOMS/
X B		X CORRIDORS/ EXIT ACCESS	ROOMS/
XC		CORRIDORS/ EXIT ACCESS	X ROOMS/
	•		
OCCUPANCY:	EDUCATION	IAL	
FINISH CLASS	LOCATION		
XA	X EXITS		ROOMS/
X B		X CORRIDORS/ EXIT ACCESS	ROOMS/
X C		CORRIDORS/ EXIT ACCESS	X ROOMS/

CONSTRUCTION SAFETY COMPLIANCE WITH:

X CHAPTER 33 SAFE GUARDS DURING CONSTRUCTION OF THE IBC

X CHAPTER 33 FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION OF THE IFC

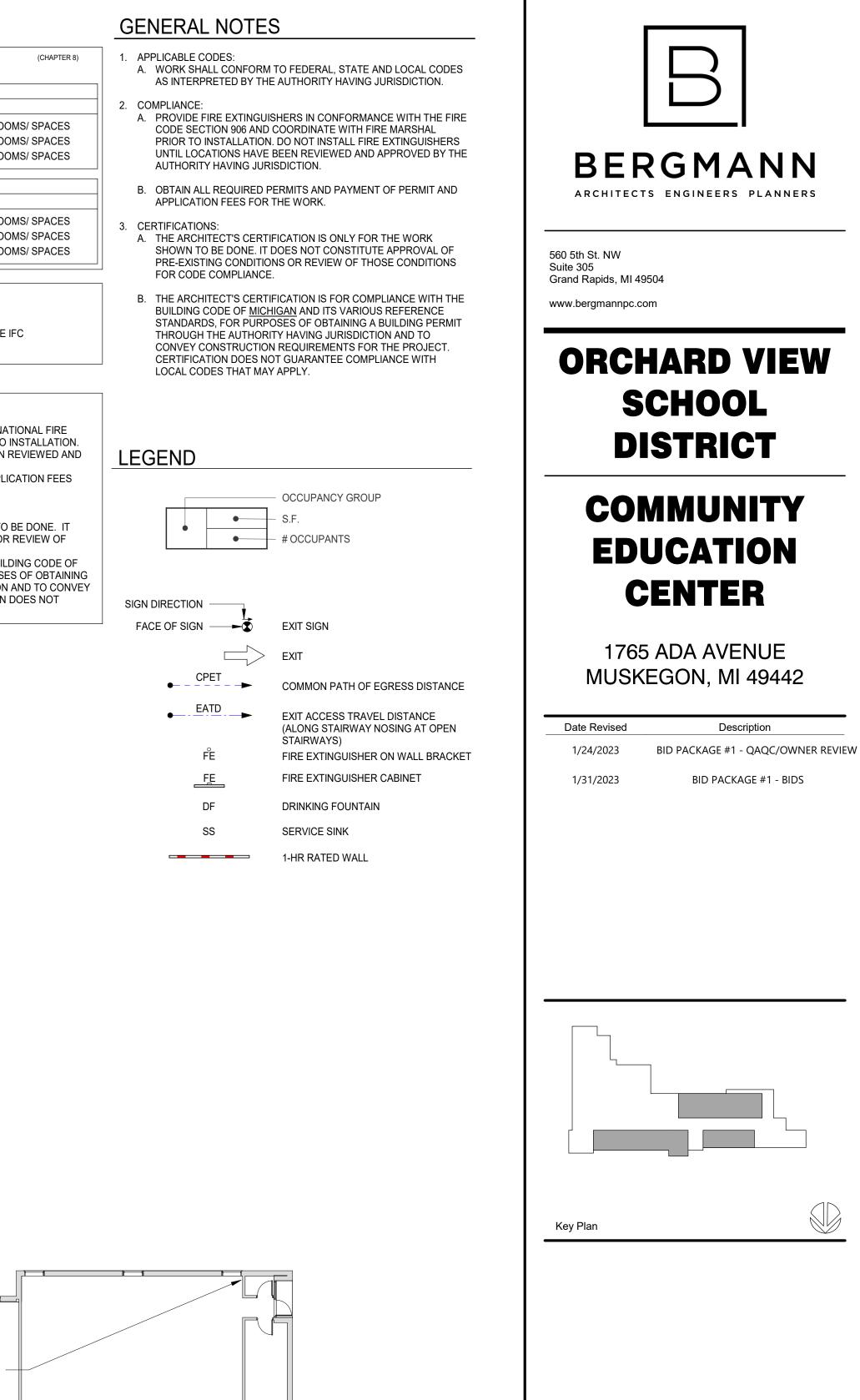
ADDITIONAL NOTES:

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- COMPLIANCE: PROVIDE FIRE EXTINGUISHERS IN CONFORMANCE WITH THE INTERNATIONAL FIRE CODE SECTION 906 AND COORDINATE WITH FIRE MARSHAL PRIOR TO INSTALLATION. DO NOT INSTALL FIRE EXTINGUISHERS UNTIL LOCATIONS HAVE BEEN REVIEWED AND APPROVED BY THE AUTHORITY HAVING JURISDICTION.
- OBTAIN ALL REQUIRED PERMITS AND PAYMENT OF PERMIT AND APPLICATION FEES В. FOR THE WORK.

CERTIFICATIONS:

- THE ARCHITECTS CERTIFICATION IS ONLY FOR THE WORK SHOWN TO BE DONE. IT Α. DOES NOT CONSTITUTE APPROVAL OF PRE-EXISTING CONDITIONS OR REVIEW OF THOSE CONDITIONS FOR CODE COMPLIANCE.
- THE ARCHITECTS CERTIFICATION IS FOR COMPLIANCE WITH THE BUILDING CODE OF MICHIGAN AND IT'S VARIOUS REFERENCE STANDARDS, FOR PURPOSES OF OBTAINING A BUILDING PERMIT THROUGH THE AUTHORITY HAVING JURISDICTION AND TO CONVEY CONSTRUCTION REQUIREMENTS FOR THE PROJECT. CERTIFICATION DOES NOT GUARANTEE COMPLIANCE WITH LOCAL CODES THAT MAT APPLY.



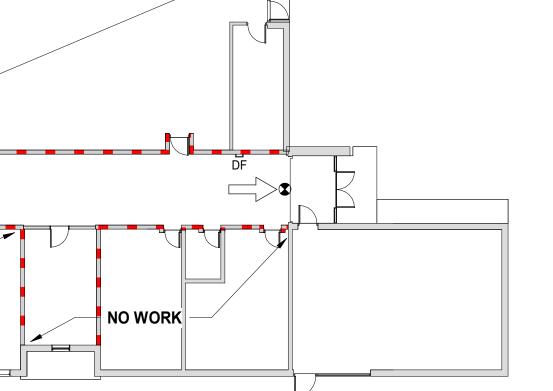
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Project Manager	Discipline Lead
D HOLTROP	B HUYLER
Designer	Reviewer
E POST	D HOLTROP
Date Issued	Project Number
1/31/2023	16600.00

Sheet Name

CODE COMPLIANCE & LIFE SAFETY PLANS

G001





STRUCTURAL GENERAL NOTES

GENERAL

- 1. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THE GOVERNING LOCAL MUNICIPAL CODES AND SPECIFICATIONS (INCLUDING SUPPLEMENTS) FOR THIS TYPE OF CONSTRUCTION. THE STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING CODES AND REFERENCED STANDARDS LISTED BELOW.
- 2. THE STRUCTURAL DRAWINGS ARE INTENDED TO BE USED IN CONJUNCTION WITH THE ARCHITECTURAL DRAWINGS AND ALL OTHER APPLICABLE DISCIPLINE DRAWINGS. ANY CONFLICT BETWEEN NOTES, DETAILS, AND SPECIFICATIONS, THE MOST RIGID REQUIREMENTS SHALL GOVERN
- 3. THE CONTRACTOR SHALL NOT MAKE DEVIATIONS FROM THE DESIGN DOCUMENTS WITHOUT WRITTEN APPROVAL FROM THE ENGINEER OF RECORD (EOR). CHANGES BY THE CONTRACTOR, DUE TO CONTRACTOR PROPOSED ALTERNATIVES OR TO CORRECT CONTRACTOR ERRORS/OMISSIONS. MUST BE SUBMITTED TO THE EOR FOR APPROVAL. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS INCLUDING ENGINEERING FEES FOR REVIEW, OBSERVATIONS, STRUCTURAL CALCULATIONS, AND REVISIONS. THE CONTRACTOR SHALL ALSO PROCESS THE REVISED PLANS REFLECTING ALL SUBSTITUTIONS THROUGH THE APPROPRIATE OFFICE OF ALL GOVERNING AGENCIES.
- 4. THE STRUCTURE IS DESIGNED AS SELF SUPPORTING AFTER THE BUILDING IS FULLY COMPLETED. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION METHODS, PROCEDURES AND SEQUENCES, UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS. TEMPORARY BRACING, SHEETING, SHORING/ETC., TO ENSURE THE STRUCTURAL STABILITY OF THE NEW STRUCTURE, EXISTING STRUCTURES, SIDEWALKS, AND UTILITIES, IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE LOCAL JURISDICTION. LOADS GREATER THAN THE INDICATED DESIGN LIVE LOADS SHALL NOT BE PLACED ON THE
- STRUCTURE. ALL CONSTRUCTION PROCESSES SHALL MEET ALL APPLICABLE OSHA REQUIREMENTS. CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE ENGINEER FREE AND HARMLESS OF ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THE PROJECT, EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE ENGINEER.
- 6. ALL SECTIONS AND DETAILS, WHETHER EXPLICITLY CUT ON PLAN OR NOT, SHALL BE CONSIDERED TYPICAL AND SHALL APPLY AT SIMILAR CONDITIONS. SIGNIFICANT ADJUSTMENTS ACCOUNTING FOR VARYING CONDITIONS IN THE FIELD SHOULD BE SUBMITTED TO EOR FOR APPROVAL AND BE RESOLVED PRIOR TO BEGINNING WORK
- 7. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK AND COORDINATION INVOLVED TO PROVIDE OPENINGS. CHASES, EQUIPMENT PADS, HANGERS, INSERTS, SLEEVES, ETC. INDICATED ON ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS. OPENINGS SHOWN ON THE STRUCTURAL DRAWINGS SHALL NOT BE REVISED WITHOUT APPROVAL FROM THE EOR
- 8. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL DIMENSIONS AND INFORMATION NOT SHOWN. WORKING DIMENSIONS SHALL NOT BE SCALED FROM STRUCTURAL PLANS, SECTIONS, OR DETAILS. ANY REFERENCE TO WATERPROOFING AND FIREPROOFING ON THE STRUCTURAL DRAWINGS ARE FOR REFERENCE ONLY, SEE ARCHITECTURAL DRAWINGS FOR SPECIFIC REQUIREMENTS
- . CONTRACTOR SHALL VISIT THE SITE AND VERIFY EXISTING CONDITIONS AND UTILITIES PRIOR TO STARTING ANY CONSTRUCTION. STRUCTURAL MEMBER INFORMATION INDICATED AS EXISTING (EXST.) ON DRAWINGS WAS OBTAINED DURING LIMITED FIELD OBSERVATIONS AND/OR FROM LIMITED DRAWINGS IF AVAILABLE. ACTUAL CONDITIONS MAY DIFFER FROM THAT WHICH IS INDICATED ON PLAN. IF FIELD CONDITIONS VARY FROM THOSE SHOWN ON CONTRACT DOCUMENTS, THE CONTRACTOR IS TO CONTACT THE ARCHITECT IMMEDIATELY. ALL FIELD DIMENSIONS ARE TO BE VERIFIED AND NOTED AS SUCH ON SHOP DRAWING PRIOR TO FABRICATION OF ANY NEW STRUCTURAL MEMBERS.
- 10. THESE DRAWINGS DO NOT DEFINE THE ENTIRE SCOPE OF THE CONTRACTOR OR SUBCONTRACTOR CONTRACTS. REFER TO ALL APPLICABLE ARCHITECTURAL, STRUCTURAL, AND OTHER DISCIPLINE DRAWINGS AS REQUIRED.

1. A GEOTECHNICAL REPORT HAS NOT BEEN PROVIDED FOR THIS SITE. THE CONTRACTOR, THROUGH THE CLIENT, IS RESPONSIBLE FOR OBTAINING A GEOTECHNICAL REPORT TO CONFIRM THE PRESUMPTIVE LOAD BEARING VALUES (IBC TABLE 1806-2) UNLESS WAIVED BY THE BUILDING OFFICIAL. BERGMANN ASSOCIATES ASSUMES NO LIABILITY FOR THESE DESIGN ASSUMPTIONS OR FOR ANY FOUNDATION REDESIGN NECESSITATED BY DIFFERING SOIL CONDITIONS.

2. FOUNDATION SYSTEM - CONCRETE WALLS, SLABS-ON-GRADE AND SPREAD FOOTINGS. 3. FOUNDATION UNITS SHALL BE CENTERED UNDER SUPPORTED STRUCTURAL MEMBERS, UNLESS NOTED OTHERWISE ON THE DRAWINGS.

4. PLACE BACKFILL AND FILL MATERIALS IN HORIZONTAL LAYERS NOT MORE THAN 8" IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HEAVY COMPACTION EQUIPMENT, AND NOT MORE THAN 6" IN LOOSE DEPTH FOR MATERIAL COMPACTED BY HAND-OPERATED TAMPERS

5. ALL FOUNDATION ELEMENTS ARE TO BE PLACED ON UNDISTURBED APPROVED NATIVE SOIL OR ON 1'-0" MINIMUM APPROVED COMPACTED STRUCTURAL FILL. STRUCTURAL FILL SHALL EXTEND 1'-0" MINIMUM BEYOND THE FOUNDATION ELEMENT AND THEN DOWNWARD TO NATURAL SOILS AT A SLOPE OF 2 HORIZ. TO 1 VERT. 6. BACKFILL AND FILL MATERIALS SHALL BE COMPACTED TO 95% OF MAXIMUM DRY DENSITY ACCORDING TO THE MODIFIED PROCTOR TEST (ASTM D-1557).

EACH PRIME CONTRACTOR SHALL PROVIDE ALL TRENCHING WORK REQUIRED FOR ITS CONTRACT. INCLUDING TRENCH EXCAVATION, AND BACKFILL (WITH ACCEPTABLE FILL) TO WITHIN 1'-0" OF FINISH GRADE/FLOOR. ALL TRENCHING WORK WITHIN THE BUILDING FOOTPRINT SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. GENERAL CONTRACTOR MUST ACCEPT, IN WRITING, THE QUALITY OF THE TRENCH BACKFILL OF OTHER PRIME CONTRACTORS BEFORE BEGINNING WORK OVER THE TOP OF THE TRENCH. 8. EXCAVATION AND BACKFILL OPERATIONS SHALL BE MAINTAINED IN A DRY CONDITION. SURFACE AND INFILTRATING WATER SHALL BE REMOVED BY SITE GRADING AND PUMPING FROM SUMPS AS REQUIRED 9. NO FOUNDATION CONCRETE SHALL BE PLACED IN WATER OR ON FROZEN SUBGRADE MATERIAL. 10. PROTECT IN-PLACE FOUNDATIONS AND SLABS FROM FROST PENETRATION UNTIL THE PROJECT IS

11. THE CONTRACTOR IS RESPONSIBLE FOR EXCAVATION SAFETY. EXCAVATIONS MUST BE PERFORMED IN ACCORDANCE WITH THE CURRENT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS 12. PROVIDE TEMPORARY OR PERMANENT SUPPORTS WHETHER SHORING, SHEETING OR BRACING SO THAT NO HORIZONTAL MOVEMENT OR VERTICAL SETTLEMENT OCCURS TO EXISTING STRUCTURES, STREETS OR UTILITIES ADJACENT TO THE PROJECT SITE.

CAST-IN-PLACE CONCRETE

1. CAST-IN-PLACE CONCRETE WORK SHALL CONFORM TO THE ACI-318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" AND ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE." 2. ALL CONCRETE SHALL BE CONTROLLED CONCRETE, PROPORTIONED, MIXED AND PLACED IN THE PRESENCE OF A REPRESENTATIVE OF AN APPROVED TESTING AGENCY.

3. PRIOR TO PLACEMENT OF CONCRETE, A FIELD REPRESENTATIVE SHALL BE INFORMED A MINIMUM OF 24 HOURS IN ADVANCE OF PLACEMENT, TO ALLOW FOR INSPECTION OF REINFORCING STEEL, AND PREPARATION FOR TAKING CONCRETE SAMPLES. INDEPENDENT TESTING IS REQUIRED FOR ALL CONCRETE PLACEMENTS. CONCRETE TO BE SAMPLE IN ACCORDANCE WITH ACI 318 AND APPLICABLE ASTM TESTING PROCEEDURES. QUANTITY OF SPECIMENS, FREQUENCY OF SAMPLING AND CYLINDER COMPRESSION TESTING SCHEDULE TO BE DETERMINED BY ACI 318, OWNERS REQUIREMENTS, AND / OR LOCAL JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT.

4. UNLESS NOTED OTHERWISE, STRUCTURAL CONCRETE SHALL HAVE THE FOLLOWING STRENGTH, AND

DURABILITY REQUIREMENTS:		OSUF	RE CLA	ASS		
TYPE	F	S	W	С	AIR CONTENT	MIN 28 DAY COMP STENGTH
FOOTINGS/PIERS	F0	S1	W0	C1	1.0% - 3.0%	4000 PSI

5. UNLESS NOTED OTHERWISE, ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE (144 PCF +/-) WITH ALL CEMENT CONFORMING TO ASTM C150, TYPE I / II. MAXIMUM AGGREGATE SIZE SHALL BE 1-1/2" FOR FOOTINGS. 6. CONTRACTOR SHALL SUBMIT A CONCRETE MIX DESIGN IN ACCORDANCE WITH ACI 318 FOR EACH TYPE OF CONCRETE APPLICABLE TO THE PROJECT PRIOR TO THE PLACEMENT OF CONCRETE FOR APPROVAL. THE ADDITIONOF WATER AT THE PLANT OR IN THE FIELD GREATER THAN THE SPECIFIED WATER CONTENT IS PROHIBITED. ADMIXTURE PRODUCT DATA SHALL BE SUBMITTED FOR APPROVAL. 7. THE USE OF HIGH EARLY STRENGTH CONCRETE MAY BE REQUESTED BY THE CONTRACTOR. MIX DESIGN

DATA USING FIELD CURED SPECIMENS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL. 8. ALL FORMWORK TO BE CONSTRUCTED IN ACCORDANCE WITH ACI-347 "GUIDE TO FORMWORK FOR CONCRETE" WITHIN TOLERANCE LIMITS DEFINED IN ACI-117 "SPECIFICATION FOR TOLERANCES FOR CONCRETE CONSTRUCTIONAND MATERIALS."

9. CONCRETE FOR FOOTINGS IS TO BE POURED ON THE SAME DAY AS THE SUBGRADE PREPARATION IS APPROVED BY THE INDEPENDENT INSPECTION AGENCY / GEOTECHNICAL ENGINEER. 10. CONCRETE SHALL NOT BE POURED OVER STANDING WATER, SATURATED OR FROZEN SOILS. 11. ANY CUTTING/CORING OF CONCRETE IS PROHIBITED UNLESS APPROVED BY THE EOR.

12. THE CONTRACTOR SHALL PROTECT THE CONCRETE FROM THE FOLLOWING IMMEDIATELY AFTER PLACEMENT: • PREMATURE DRYING.

• HOT WEATHER, REFER TO ACI-305R "HOT WEATHER CONCRETING" • COLD WEATHER / FREEZING, REFER TO ACI-306R "COLD WEATHER CONCRETING"

CONCRETE REINFORCEMENT:

1. DETAILING, FABRICATION, AND INSTALLATION OF REINFORCEMENT SHALL CONFORM TO ACI-318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE," AND THE MOST RECENT ADDITIONS OF SP-66 "ACI DETAILING MANUAL" AND THE CRSI "MANUAL OF STANDARD PRACTICE."

2. STEEL REINFORCEMENT, UNLESS NOTED OTHERWISE, SHALL CONFORM TO THE FOLLOWING: BARS, TIES, AND STIRRUPS ASTM A615 GRADE 60 (MIN. YIELD STRESS FY = 60 KSI).

3. CONTRACTOR SHALL SUBMIT REBAR SHOP DRAWINGS FOR APPROVAL. PROVIDE AND SCHEDULE ON SHOP DRAWINGS THE NECESSARY ACCESSORIES TO HOLD REINFORCEMENT SECURELY IN POSITION. 4. ALL REINFORCEMENT SHALL BE SECURELY HELD IN PLACE WHILE PLACING CONCRETE. IF REQUIRED, ADDITIONAL BARS, STIRRUPS, OR CHAIRS SHALL BE PROVIDED BY THE CONTRACTOR TO FURNISH SUPPORT

FOR ALL BARS. 5. MINIMUM CONCRETE PROTECTIVE COVERING FOR REINFORCEMENT, UNLESS NOTED OTHERWISE, SHALL BE AS FOLLOWS:

• UNFORMED SURFACES CAST AGAINST AND PERMANENTLY IN CONTACT WITH EARTH 3.0" • FORMED SURFACES IN CONTACT WITH EARTH OR EXPOSED TO WEATHER #6 THROUGH #18 BARS 2.0"

• FORMED SURFACES IN CONTACT WITH EARTH OR EXPOSED TO WEATHER #5 BARS OR SMALLER 6. WHERE REINFORCEMENT IS NOT SHOWN ON DRAWINGS PROVIDE REINFORCEMENT IN ACCORDANCE WITH APPLICABLE DETAILS AS DETERMINED BY THE ARCHITECT. IN NO CASE SHALL REINFORCEMENT BE LESS THAN THE MINIMUM REINFORCEMENT PERMITTED BY THE APPLICABLE CODES. 7. REINFORCEMENT SHALL NOT BE TACK WELDED.

8. INSTALLATION OF REINFORCEMENT SHALL BE COMPLETED AND A FIELD REPRESENTATIVE SHALL BE INFORMED A MINIMUM OF 24 HOURS IN ADVANCE OF CONCRETE PLACEMENT, TO ALLOW FOR INSPECTION OF THE REINFORCING STEEL.

THE MORE STRINGENT SHALL APPLY a. SHAPES: ASTM A992 - GRADE 50 b. PLATES, ANGLES, CHANNELS: ASTM A36 c. ANCHOR RODS: ASTM F1554, GRADE 36 d. WELDING ELECTRODE: E70XX

STRUCTURAL STEEL

3. A QUALITY CONTROL PROGRAM OF SHOP AND FIELD TESTING AND INSPECTION SHALL BE PERFORMED ON STRUCTURAL STEEL FABRICATION, ERECTION, AND CONNECTIONS IN ACCORDANCE WITH THE SPECIFICATIONS. SCHEDULE WORK AND PROVIDE ACCESS TO ALLOW THE TESTING REQUIREMENTS TO BE COMPLETED. 4. PERFORM ALL WELDING USING CERTIFIED WELDERS AND IN ACCORDANCE WITH AWS D1.1 "STRUCTURAL WELDING CODE - STEEL" COMPLY WITH AISC SPECIFICATION SECTION J2 FOR MINIMUM FILLET WELD SIZE, BUT DO NOT USE LESS THAN A 3/16 INCH FILLET UNLESS SPECIFICALLY NOTED ON THE DRAWINGS. 5. DESIGN AND DETAILING OF THE CONNECTIONS IS THE RESPONSIBILITY OF THE FABRICATOR. USE RATIONAL ENGINEERING DESIGN AND STANDARD PRACTICE FOR THE CRITERIA SET FORTH IN THE CONTRACT DOCUMENTS. THE DETAILS SHOWN ON THE DRAWINGS ARE CONCEPTUAL AND DO NOT INDICATE THE REQUIRED WELD SIZES OR NUMBER OF BOLTS UNLESS SPECIFICALLY NOTED. 6. FABRICATE ALL BEAMS WITH THE NATURAL CAMBER UP. PROVIDE ANY ADDITIONAL CAMBER SHOWN ON THE

STRUCTURAL DRAWINGS. 7. DO NOT FIELD CUT ANY STRUCTURAL STEEL WITHOUT THE PRIOR REVIEW AND ACCEPTANCE OF THE ARCHITECT/ENGINEER. CLEARLY INDICATE ON THE SHOP DRAWINGS SUBMITTED FOR REVIEW ANY MEMBER OPENINGS REQUIRED BY OTHER TRADES. 8. ERECTION PROCEDURES, SEQUENCES AND COORDINATION OF WORK WITH OTHER TRADES IS THE RESPONSIBILITY OF THE CONTRACTOR. PROVIDE ANY ADDITIONAL STEEL REQUIRED FOR ERECTION PURPOSES AT NO COST TO THE OWNER. REMOVE THIS ADDITIONAL STEEL UNLESS DIRECTED OTHERWISE BY THE

ARCHITECT IN WRITING. 9. PROVIDE TEMPORARY BRACING AND SHORING AS REQUIRED FOR THE SAFETY, STABILITY AND ALIGNMENT OF THE STRUCTURE. LEAVE TEMPORARY BRACING IN PLACE FOR AS LONG AS NECESSARY. PERFORM FINAL BOLTING AND WELDING ONLY ON THOSE PORTIONS OF THE STRUCTURE THAT HAVE BEEN ALIGNED AND PLUMBED WITHIN THE SPECIFIED TOLERANCES. 10. AFTER FABRICATION, CLEAN STEEL OF ALL RUST, LOOSE MILL SCALE, DIRT, OIL, GREASE OR OTHER FOREIGN MATERIALS 11. STRUCTURAL STEEL CONTRACTOR SHALL VERIFY ALL ROOF OPENINGS AS TO SIZE AND LOCATION WITH

HVAC AND PLUMBING CONTRACTOR BEFORE FABRICATION OF SUPPORT FRAMES. 12. ALL STEEL SHALL RECEIVE ONE COAT OF PRIMER, UNLESS NOTED OTHERWISE. ALL STEEL EXPOSED TO VIEW IN THE FINISHED WORK SHALL RECEIVE ONE COAT OF PRIMER AND TWO COATS OF FINISH PAINT.

COLD FORMED STEEL FRAMING (DELEGATED)

- FRAMING" AND THE MANUFACTURER'S WRITTEN INSTRUCTIONS. 2. ALL COLD FORMED STEEL FRAMING SHOWN ON THE DRAWINGS HAS BEEN SPECIFIED ACCORDING TO THE AISI FOUR PART IDENTIFICATION CODE SYSTEM.
- A. 16 GA AND HEAVIER Fy = 50 KSI B. 18 GA AND LIGHTER - Fy = 33 KSI
- AS BACK UP FOR BRICK VENEER UNDER WIND LOADS SHALL NOT EXCEED SPAN/360.
- SHALL HAVE A MINIMUM EDGE DISTANCE OF 3" AND MINIMUM SPACING OF 4" ON CENTER. 7. PERFORM WELDING OF ALL LIGHT GAGE STEEL FRAMING IN ACCORDANCE WITH AWS D1.3 "STRUCTURAL WELDING CODE - SHEET STEEL" AND AWS D19.0 "WELDING ZINC-COATED STEEL"
- GREATEF
- 10. ALL STUDS AND JOISTS SHALL BE INSTALLED AT THE SPACING INDICATED ON THE DRAWINGS.
- BEARING WALLS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM C1007.
- SQUARE CUT. 15. STUD HEADERS OVER WALL OPENINGS SHALL BE FURNISHED WITH UNPUNCHED WEBS.
- NOTED OTHERWISE.
- 17. FRAMING SHALL BE ALIGNED WITH STUDS IN ACCORDANCE WITH AISI S200 SECTION C1. BY AN ENGINEER REGISTERED IN THE STATE OF MICHIGAN. SCHEDULE SUBMITTALS TO ALLOW 10 WORKING DAYS FOR REVIEW.

COMPONENT AND CLADDING WIND LOAD SCHEDULE

EFFECTIVE WIND AREA			R	DOF			WALL				
(SQ FT)	INTERIOR (1) EDGE (2)		CORNER (3)		INTERIOR (4)		EDGE (5)				
10	-28.9	11.7	-48.4	11.7	-72.9	11.7	-28.6	26.4	-35.2	26.4	
20	-28.3	11.1	-43.5	11.1	-60.7	11.1	-27.5	25.3	-33.0	25.3	
50	-27.0	9.9	-36.2	9.9	-43.5	9.9	-25.9	23.1	-29.7	23.1	
100	-26.4	9.3	-31.1	9.3	-31.1	9.3	-24.2	22.6	-28.6	22.6	
200	-26.4	9.3	-31.1	9.3	-31.1	9.3	-23.1	21.5	-24.2	21.5	
500	-26.4	9.3	-31.1	9.3	-31.1	9.3	-22.0	19.8	-22.0	19.8	

- SEE ASCE 7-10, CHAPTER 30, PART 3. BUILDINGS WITH H < 60 FT FOR DESIGN METHOD USED TO CALCULATE ULITMATE COMPONENT AND CLADDING WIND LOADS. LOADS SHOWN IN TABLE ABOVE ARE ULTIMATE COMPONENT AND CLADDING WIND LOADS
- 2. PER ASCE 7-10, CHAPTER 30. SECTION 30.2.2, THE MINIMUM ULTIMATE COMPONENT AND CLADDING DESIGN WIND PRESSURES SHALL NOT BE LESS THAN A NET PRESSURE OF 16.0 PSF ACTING IN EITHER DIRECTION NORMAL TO
- THE SURFACE 3. POSITIVE PRESSURES ACT TOWARDS THE SURFACE. NEGATIVE PRESSURES
- ACT AWAY FROM THE SURFACE 4. LINEARLY INTERPOLATE PRESSURES FOR EFFECTIVE WIND AREAS BETWEEN
- AREA. 5. EDGE ZONE IS 8'-0".

1. STRUCTURAL STEEL SHALL CONFORM TO AISC 360 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" AND SHALL COMPLY WITH ALL LOCAL LAWS AND ORDINANCES. WHERE CONFLICTING REQUIREMENTS OCCUR,

2. PROVIDE NEW MATERIAL CONFORMING TO THE FOLLOWING REQUIREMENTS FOR ALL STRUCTURAL STEEL

1. ALL COLD FORMED STEEL FRAMING MEMBERS SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISI S100 "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS," AISI S200 "NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL FRAMING -GENERAL PROVISIONS," AISI S202 "CODE OF STANDARD PRACTICE FOR COLD-FORMED STEEL STRUCTURAL

3. ALL STEEL STUDS, JOISTS, TRACKS, BRACING OR BRIDGING AND ACCESSORIES SHALL CONFORM TO ASTM C955 METALLIC COATED CP 60, AND HAVE THE FOLLOWING MATERIALS STRENGTHS UNLESS OTHERWISE NOTED:

4. UNLESS SPECIFICALLY NOTED, ALL MATERIAL SHALL BE A MINIMUM 18 GAUGE (MINIMUM 16 GAUGE FOR STUDS SERVING AS BACK UP FOR BRICK VENEER) THICKNESS, AND SHALL MEET THE DEFLECTION REQUIREMENTS OF THE FINISH MATERIAL TO BE ATTACHED TO THE FRAMEWORK. DEFLECTION OF COLD FORMED STEEL SERVING

5. ALL SELF-DRILLING AND SELF-TAPPING SCREWS SHALL CONFORM TO ASTM C1513. SCREW PENETRATION THROUGH JOINED MATERIALS SHALL NOT BE LESS THAN THREE (3) EXPOSED THREADS. SELECT SCREWS WITH AN ADEQUATE CUTTING TIP TO ACCOMMODATE THE TOTAL THICKNESS TO BE DRILLED. MAINTAIN A MINIMUM OF 1/2" DISTANCE FROM EDGE OF STEEL TO CENTERLINE OF SCREW AND A MINIMUM OF 3/4" BETWEEN SCREWS. 6. ALL POWDER ACTUATED FASTENERS SHALL BE AS MANUFACTURED BY HILTI OR APPROVED EQUAL. PROVIDE A MINIMUM OF (1) 5/16" DIAMETER STEEL WASHER ON ALL POWDER ACTUATED FASTENER CONNECTIONS TO INCREASE THE PULL-OVER CAPACITY OF THE CONNECTION. POWDER ACTUATED FASTENERS INTO CONCRETE

8. STRUCTURAL CONNECTIONS OF COLD FORMED STEEL FRAMING MEMBERS SHALL BE MADE PER MANUFACTURER'S RECOMMENDATIONS. ADEQUATE TO CARRY THE IMPOSED LOADS. AND CONFORMING TO THE

AISI AND AWS SPECIFICATIONS. CONNECTION DESIGN SHALL BE BASED ON REACTIONS GIVEN ON THE DRAWINGS OR AS LISTED IN THE MANUFACTURER'S UNIFORM LOAD CAPACITY TABLES, WHICHEVER IS

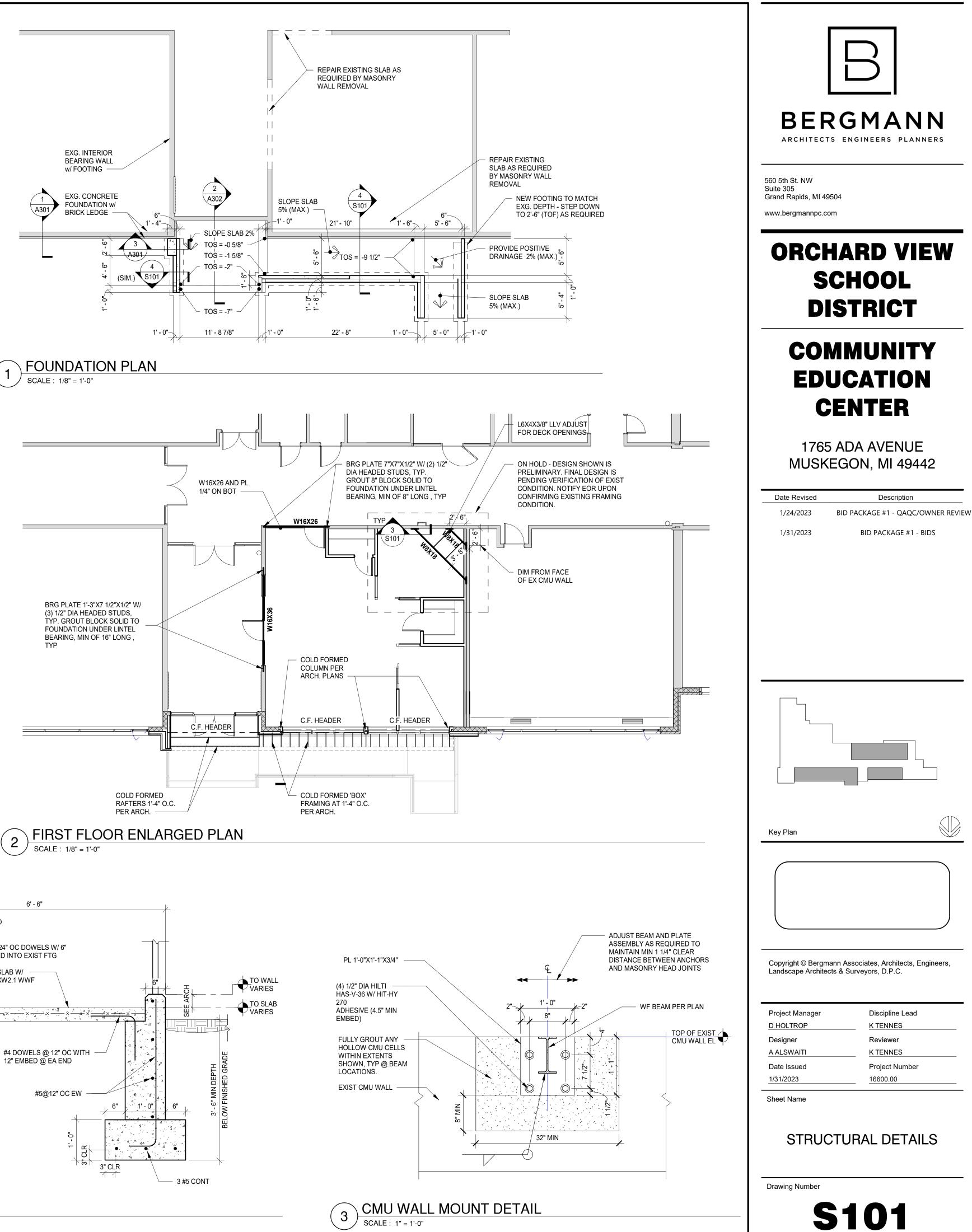
9. CUT ALL COLD FORMED STEEL FRAMING MEMBERS WITH SAWS OR SHEARS. FLAME CUTTING IS NOT PERMITTED. 11. INSTALLATION TOLERANCES FOR PLUMBNESS, LEVELNESS, STUD SPACING, AND SQUARENESS OF LOAD

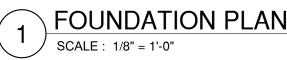
12. EACH SIDE OF WALL OPENINGS SHALL BE FRAMED WITH DOUBLE STUDS, UNLESS NOTED OTHERWISE. 13. SEAT ALL SINGLE AND MULTIPLE MEMBER METAL STUDS SECURELY IN ALL TRACKS. STUD ENDS MUST BE

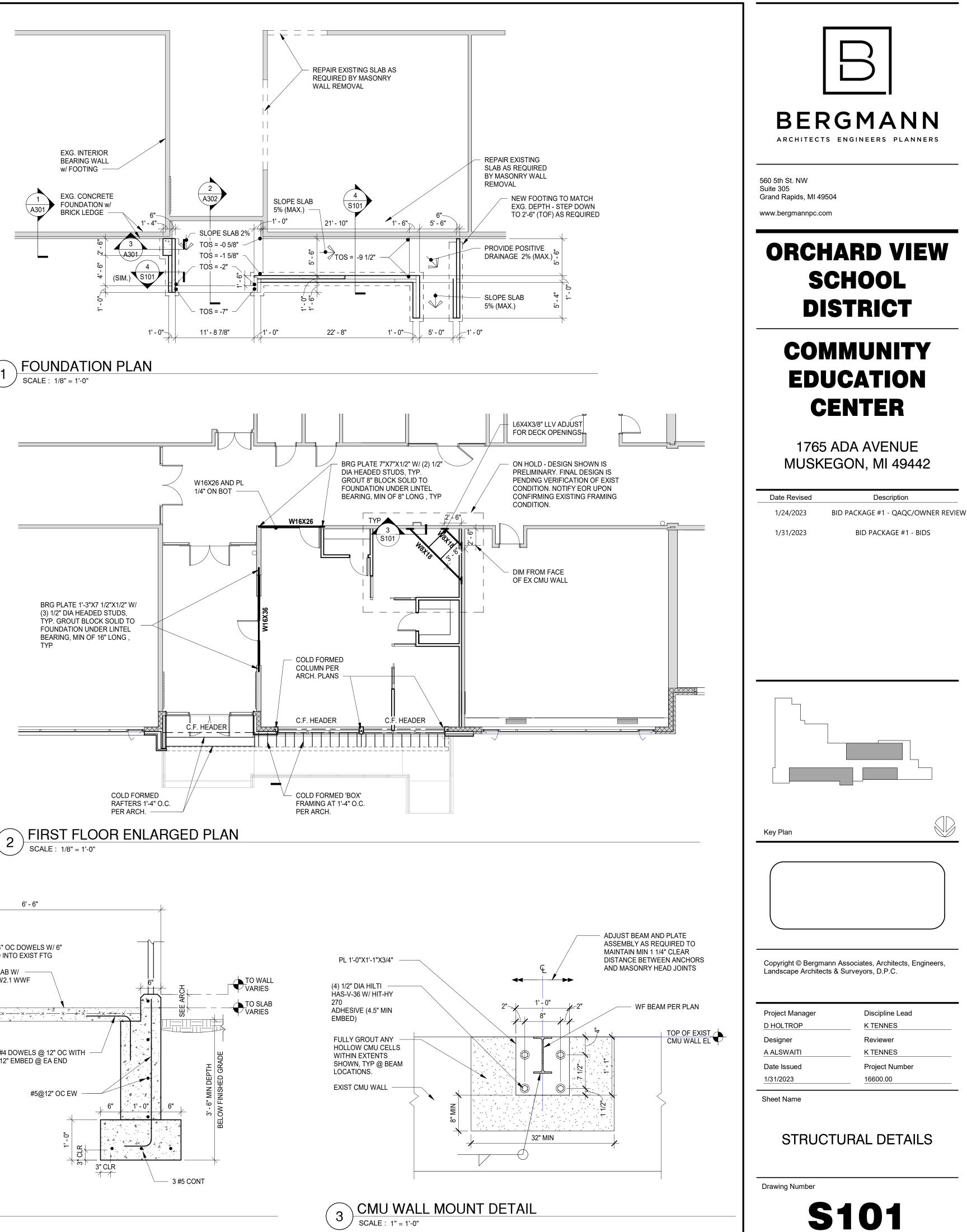
14. SPLICING OF COLD FORMED STEEL FRAMING OTHER THAN TRACK COMPONENTS IS PROHIBITED. 16. ALL STUD WALLS AND JOISTS SHALL BE BRACED AGAINST ROTATION BY THE INSTALLATION OF MECHANICAL BRIDGING AT A MAXIMUM SPACING OF 4'-0" ON CENTER FOR WALLS AND 5'-0" ON CENTER FOR JOISTS, UNLESS

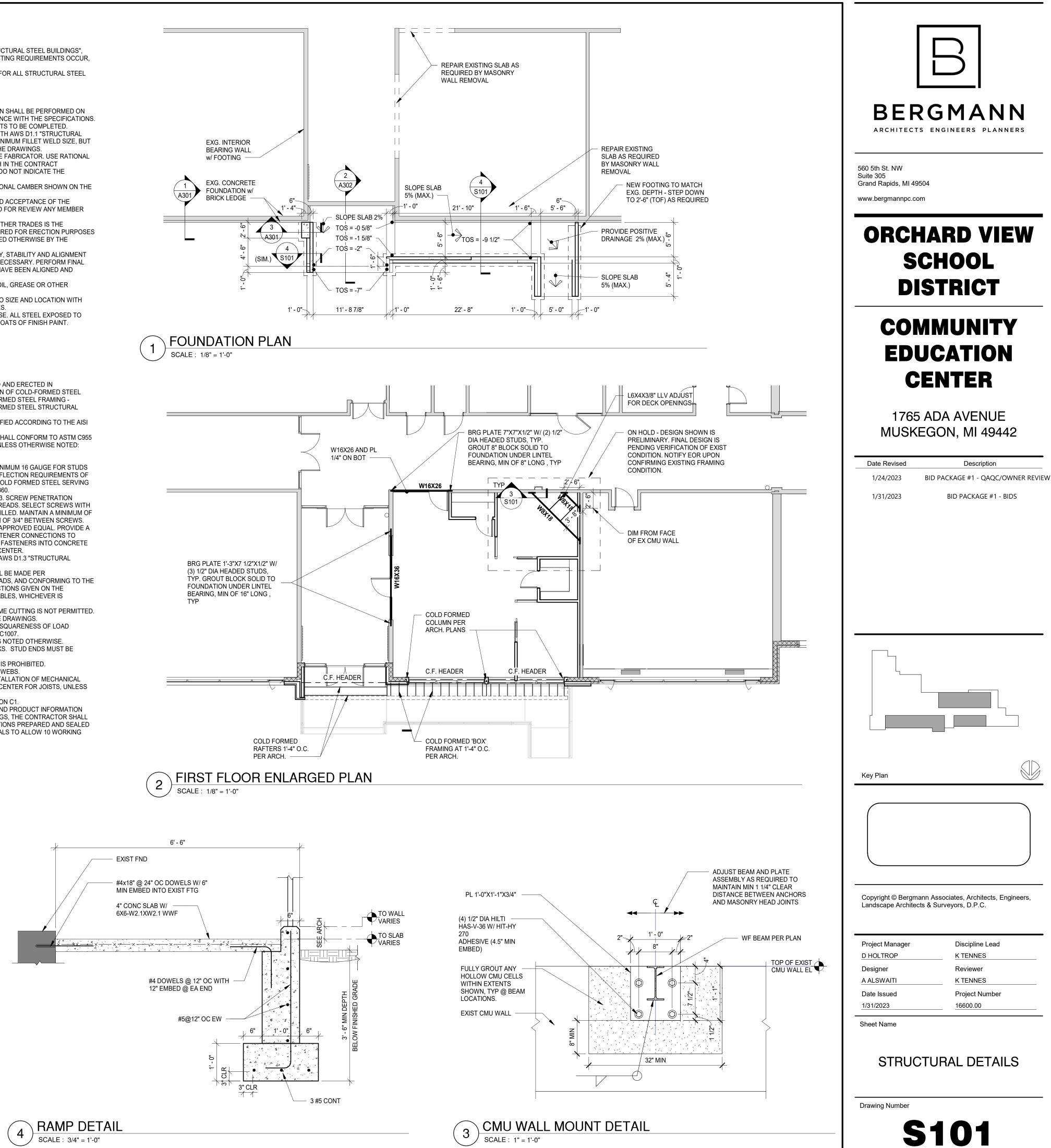
18. CONTRACTOR SHALL SUBMIT SIGNED AND SEALED DETAILED SHOP DRAWINGS AND PRODUCT INFORMATION FOR REVIEW AND APPROVAL. WHERE NOT SPECIFICALLY DESIGNED ON DRAWINGS, THE CONTRACTOR SHALL SUBMIT CALCULATIONS AND LAYOUT FOR MEMBER SIZE, SPACING AND CONNECTIONS PREPARED AND SEALED

THOSE SCHEDULED OR USE PRESSURES FOR THE SMALLER EFFECTIVE WIND

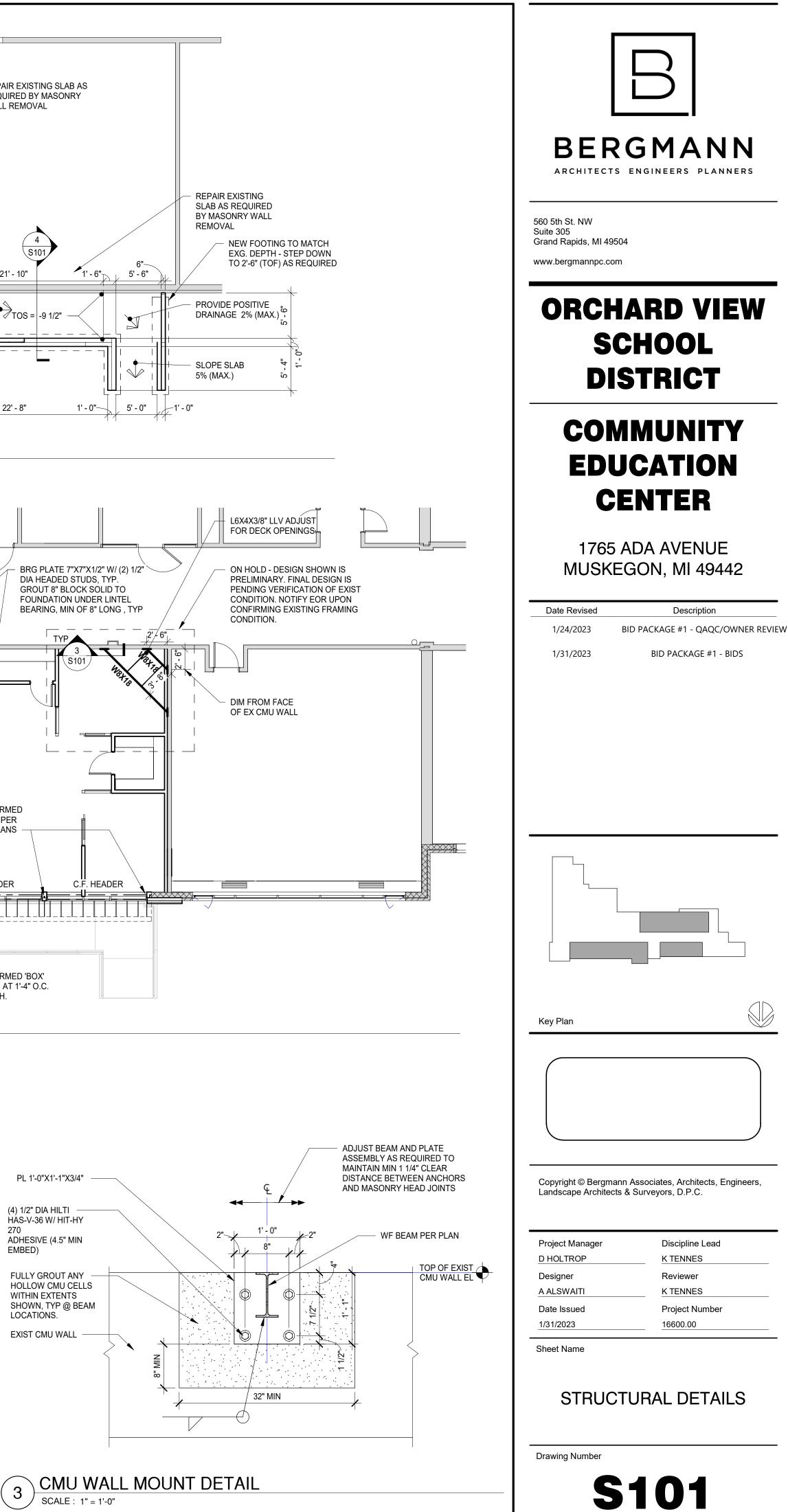


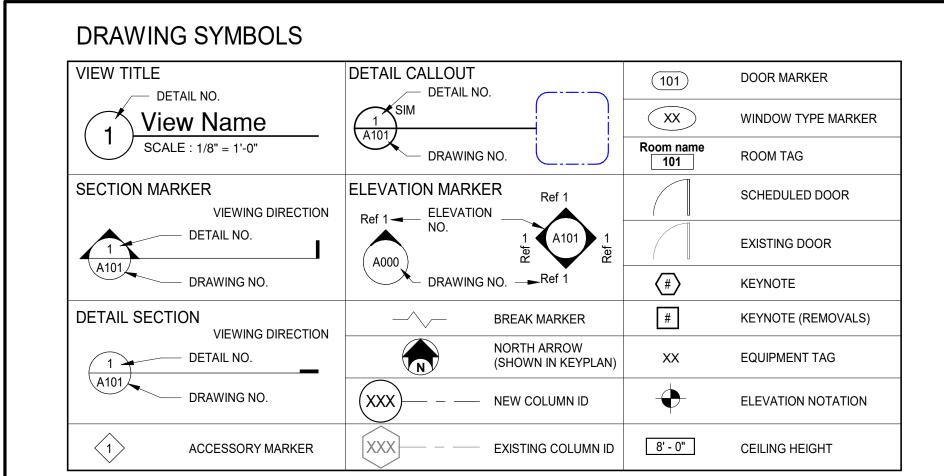












MATERIAL INDICATORS

UNDISTURBED EARTH		STEEL		FINISH WOOD
GRAVEL OR CRUSHED STONE		RIGID INSULATION		BATT INSULATION
CAST STONE		BRICK	\square	WOOD FRAMING (CONTINUOUS)
CONCRETE		PLYWOOD		WOOD BLOCKING (DISCONTIN.)
CONCRETE MASONRY UNIT	$ \begin{array}{c} \nabla_{ij} & (i_{1}, \dots, i_{n}) \\ \nabla_{ij} & (i_{1}, \dots, i_{n}) \\ (i_{n}, \dots, i_{n}) \\ $	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	AIR CONDITIONING	ID	INTERIOR DIAMETER		
				-	
ACP	ACOUSTICAL CEILING PANELS	INSUL	INSULATION	Т	TREAD
ADJ	ADJUSTABLE	INT	INTERIOR	T&G	TONGUE AND GROOVE
AFF	ABOVE FINISH FLOOR	INV	INVERT	TEMP	TEMPORARY
		11117			
ALUM	ALUMINUM			TH	THRESHOLD
		JAN CL	JANITORS CLOSET	то	TOP OF
BD	BOARD	JT	JOINT	TR	TRANSITION
		JI	JOINT		-
BLKG	BLOCKING			TYP	TYPICAL
во	BOTTOM OF		LONG		
		LAM	LAMINATE	UNO	UNLESS NOTED OTHERWISE
CG	CORNER GUARD	LAV	LAVATORY	UPH	UPHOLSTERY
CJ	CONTROL JOINT	LLV	LONG LEG VERTICAL	UR	URINAL
				U.V.	
CL	CENTER LINE	LMC	LINEAR METAL CEILING		
CLG	CEILING	LTL	LINTEL	VAR	VARIES
CLR	CLEAR	LVR	LOUVER	VB	VINYL BASE
СМ	CONSTRUCTION MANAGER	LVT	LUXURY VINYL TILE	VCT	VINYL COMPOSITION TILE
CMT	CERAMIC MOSAIC TILE			VERT	VERTICAL
CMU	CONCRETE MASONRY UNIT	МАХ	MAXIMUM	VEST	VESTIBULE
COL	COLUMN	MECH	MECHANICAL	VIF	VERIFY IN FIELD
CONC	CONCRETE	MEZZ	MEZZANINE	VWC	VINYL WALL COVERING
CONT	CONTINUOUS	MFR	MANUFACTURER		
CT	CERAMIC TILE	MIN	MINIMUM	W	WIDE
СТВ	CERAMIC TILE BASE	МО	MASONRY OPENING	W/	WITH
1		MTL	METAL	W/O	WITHOUT
D	DEEP			WB	WOOD BASE
DF	DRINKING FOUNTAIN	NIC	NOT IN CONTRACT	WC	WATER CLOSET
DIA	DIAMETER	NTS	NOT TO SCALE	WCV	WALL COVERING
DIM	DIMENSION			WD	WOOD
DWG	DRAWING	ос	ON CENTER	WDT	WINDOW TREATMENT
		OPP	OPPOSITE	WF	WOOD FLOORING
EA	EACH			WOM	WALKOFF MAT
EIFS	EXTERIOR INSULATION FINISH	Р	PAINTED	WP	WATERPROOF
	SYSTEM				
		PB	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)		
			PRESERVATIVE-TREATED WOOD		
FE	FIRE EXTINGUISHER		PRESERVATIVE-TREATED WOOD		
FEC	FIRE EXTINGUISHER CABINET				
FFE	FINISH FLOOR ELEVATION	QT	QUARRY TILE		
FLG	FLOORING				
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		
1		REINF	REINFORCING		
GA	GAUGE	RESIL	RESILIENT		
GALV		RF			
	GLAVANIZED		RESILIENT FLOORING		
GC	GENERAL CONTRACTOR	RM	ROOM		
		RO	ROUGH OPENING		
L	HIGH	RTU			
Н			ROOF TOP UNIT		
HB	HOSE BIBB				
НС	HOLLOW CORE	SC	SEALED CONCRETE		
HDR	HEADER	SIM	SIMILAR		
HDWR	HARDWARE	SMS	SHEET METAL SCREW		
НМ	HOLLOW METAL	SPEC	SPECIFICATION		
HORIZ	HORIZONTAL	SS	SOLID SURFACE		
HPC	HIGH PERFORMANCE COATING	SST	STAINLESS STEEL		
HVAC	HEATING/VENTILATION/AIR	STC	SOUND TRANSMISSION CLASS		
	CONDITIONING				
		STD	STANDARD		
HW	HOT WATER	STL	STEEL		
HWT	HOT WATER TANK	STRUCT	STRUCTURAL		
1	_				
		SYS	SYSTEM		
1					
Ĩ					

GENERAL NOTES:

ALL GENERAL NOTES PERTAIN TO ALL ARCHITECTURAL (A-SERIES) DRAWINGS IN THIS SET <u>GENERAL</u>

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

2. CONTRACTOR RESPONSIBILITIES:

- A. MATERIALS, CONSTRUCTION METHODS INCLUDING BUT NOT LIMITED TO LAYOUT, COORDINATION, SCHEDULE AND CONSTRUCTION SITE ACCESS AND WORK.
- 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 REQUIREMENTS.
- 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 UNITS, AND RETEST.
- 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 THE ARCHITECT IMMEDIATELY.

4. CONTRACT DOCUMENTS:

- 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. DOOR HARDWARE AND FENESTRATION INFORMATION.
- 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 ADDENDUM.

FIELD CONDITIONS

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 DOCUMENTS AND REPORTS PROVIDED BY OTHERS. 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.

4. 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/M³) AVERAGED OVER AN 8-HOUR PERIOD, CONTRACTORS SHALL DETERMINE AND TAKE APPROPRIATE MEASURES IF THEY SUSPECT THE PRESENCE OF LEAD.

FINISHES

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

B. PRODUCTS:

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

C. EXECUTION:

- 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 MANUFACTURER'S WARRANTIES.
- 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 CLEARANCES.
- 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 ENFORCED BY THE AUTHORITY HAVING JURISDICTION.

E. REQUIRED DOCUMENTATION: 1. SAFETY DATA SHEETS.

- 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.
- F. PROTECT ADJACENT SURFACES DURING WORK.
- G. REMOVE ADHESIVE OR PAINT SPOTS FROM FINISHED FLOORS, WALLS, GLASS OR OTHER SURFACES. FINISHES TO MEET OR EXCEED CODE REQUIREMENTS.
- H. FILL MINOR DRYWALL IRREGULARITIES WITH SPACKLING COMPOUND AND SAND TO A SMOOTH LEVEL SURFACE. EXERCISE CARE TO AVOID RAISING THE NAP OF PAPER.
- 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 BEFORE PAINTING IS STARTED.
- 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 OF THE FINISH HAS BEEN DAMAGED OR IS UNSATISFACTORY.
- L. WHEN INSTALLING CARPET FOLLOW THE CARPET AND RUG INSTITUTE METHODS OF INSTALLATION AND MANUFACTURERS WRITTEN INSTALLATION INSTRUCTIONS.
- M. WHEN INSTALLING TILE FOLLOW THE TILE COUNCIL OF NORTH AMERICA'S INSTALLATION SPECIFICATIONS AND MANUFACTURERS WRITTEN INSTALLATION INSTRUCTIONS.
- N. CENTER FLOOR MATERIAL TRANSITIONS ON DOOR ABOVE.
- O. FLOOR MATERIAL TRANSITIONS SHALL OCCUR BELOW THE DOOR

WALLS

A. DIMENSIONS:

- b. MASONRY WALLS ARE TO FACE OF MASONRY.
- c. EXISTING CONSTRUCTION ARE TO FINISHED FACE OF CONSTRUCTION.

 - B. TYPES:
 - a. WALLS NOT INDICATED WITH A WALL TYPE SHALL BE TYPE M30. OTHERWISE.
 - OF BRACING 4'-0" O.C. FOR WALLS UP TO 13'-0" HIGH.
 - HEADS & SOFFITS NOT EXTENDING FLOOR TO DECK.
 - STRUCTURAL MEMBERS OR FLOOR/ ROOF DECK.
 - INTERSECT OTHER WALLS.
 - g. PROVIDE FULL HEIGHT DOUBLE STUDS AT DOOR AND WINDOW JAMBS.
 - SYSTEM IS TO BE INSTALLED.
 - WALL TYPES.

C. RATINGS:

- SPACES.
- 2. OPENINGS AROUND PENETRATIONS ARE TO BE SEALED.
- TAPED AND FINISHED.
- FLOOR CONDITION OF FIRE RATED WALLS AND BARRIERS.
- CONSTRUCTED TO MINIMIZE SOUND TRANSMISSION AS FOLLOWS:
- 2. SET TRACK IN 3 CONTINUOUS BEADS OF ACOUSTICAL SEALANT.
- 3. EXTEND SOUND BATTS THOROUGH ANY INTERSECTING WALLS.

D. GYPSUM BOARD WALL COMPONENTS AND ACCESSORIES:

- CORNERS.

- FINISH LOCATION ON PLANS, AND COORDINATE WITH DESIGNER IN THE FIELD.
- ANY ROOM WHERE MOISTURE CONDITIONS WILL OCCUR AND NOT RECEIVING TILE FINISH.
- FIBERGLASS TAPE AND FINISH AS RECOMMENDED BY MANUFACTURER.
- e. METAL TRIM:
- 1. EXPOSED METAL J-TRIM TO BE COMPLETELY COVERED WITH SKIM COAT

- AND EXPOSED STRUCTURE.
- E. CONTROL JOINTS: a. PROVIDE IN GYPSUM WALL BOARD CONSTRUCTION AS FOLLOWS:

 - CONTROL OR MOVEMENT JOINT.
- 5. PROVIDE CONTROL JOINTS AT ALL BUILDING CONTROL OR EXPANSION JOINTS.

a. STUD WALLS ARE TO FACE OF STUD, UNLESS OTHERWISE INDICATED IN A.C. OR A.d. BELOW

WHERE NOTED AS "CLR" DIMENSIONS ARE TO FINISHED SURFACE AND ARE CRITICAL FOR ACCESSIBILITY REQUIREMENTS OR BUILT-IN FURNISHINGS.

b. COLUMN ENCLOSURES, CHASES AND ENCLOSED UNINHABITABLE SPACES SHALL BE WALL TYPE M31, UNLESS NOTED

c. BRACING: PROVIDE CHANNEL COLD ROLLED STEEL (CRSS) BRACING AT ALL METAL STUD WALLS. INSTALL TWO ROWS

d. PROVIDE (2) #10-7/16" HEX HEAD SHEET METAL SCREWS AT EACH STUD/TRACK CONNECTION AT ALL WALLS, BULK

e. PROVIDE DEFLECTION TRACK OR CLIP AT TOP OF METAL STUD WALLS THAT EXTEND TO THE UNDERSIDE OF

METAL STUD WALLS IN WHICH STUDS DO NOT EXTEND TO DECK ABOVE SHALL BE LATERALLY BRACED AT 45 DEGREES TO THE STRUCTURE ABOVE WITH 3 5/8" x 20 GA. STUDS @ 48" O.C. MAX., AND AT ENDS OF SUCH WALLS WHICH DO NOT

h. FIRE-RESISTANT JOINT SYSTEMS: AT FIRE-RESISTANT RATED WALLS, FLOORS OR FLOOR/CEILING ASSEMBLIES, AND ROOFS OR ROOF/CEILING ASSEMBLIES, PROVIDE AN APPROVED TESTED JOINT ASSEMBLY PROVIDING THE MINIMUM TIME AND TEMPERATURE RISE AT THE WALL, FLOOR, OR ROOF SUITABLE FOR THE CONSTRUCTION WHERE THE

i. THE BOTTOM EDGE OF GYPSUM WALL BOARD SHALL BE INSTALLED 3/8" ABOVE THE FLOOR AND SEALED AS NOTED IN

a. SMOKE WALLS AND SMOKE BARRIERS: SMOKE WALLS AND SMOKE BARRIERS MUST FORM A COMPLETE BARRIER TO LIMIT THE TRANSFER OF SMOKE, INCLUDING PERIMETER DETAILS, PENETRATIONS, AND AS REQUIRED BETWEEN WALLS AND DOOR JAMBS, OR SIDELIGHT FRAMES. THE MEMBRANE IS TO BE CONTINUOUS THROUGH ALL CONCEALED

1. RECESSED CABINETS, OUTLET BOXES, AND OTHER PENETRATIONS MUST BE SEALED

3. ALL EXPOSED JOINTS, ANGLES, AND ABUTMENTS IN THE SYSTEM, INCLUDING FLOOR AND ABOVE CEILING MUST BE

SEAL THE INTERFACE BETWEEN WALLS AND DOOR JAMBS, OR SIDELIGHT FRAMES.

b. FIRE WALLS AND FIRE BARRIERS: FIRE WALLS AND FIRE BARRIERS MUST BE SIMILARLY CONSTRUCTED AS A COMPLETE BARRIER TO RESIST THE SPREAD OF SMOKE AND FIRE. PENETRATIONS MUST BE SEALED AND LABELED WITH AN APPROVED FIRE RESISTANT JOINT SYSTEM. INSTALL A FIRE RESISTANT JOINT SYSTEM AT THE HEAD AND

c. FIRE AND SMOKE WALL / BARRIER / WALLS LABELING: PROVIDE LABELS ABOVE ACOUSTIC CEILINGS IN LETTERS AT LEAST 2-INCHES IN HEIGHT AND NO MORE THAN 10-LINEAL FEET ALONG THE WALL. LABELS SHALL BE PLACED IN SUCH A MANNER AS TO BE OBVIOUS TO WORKERS IN THE CONCEALED SPACE ON BOTH SIDES OF THE WALL AND WILL READ AS FOLLOWS: "X" HR. FIRE [SMOKE] WALL [BARRIER] [WALL]. PENETRATIONS MUST BE FIRE [SMOKE] STOPPED." PROVIDE LABELING AT 12'-0" O.C. SPACING. ELECTRICAL, MECHANICAL OR PLUMBING PENETRATIONS THROUGH FIRE-RATED WALL OR FLOOR ASSEMBLIES SHALL BE SEALED WITH A U.L. APPROVED THROUGH-PENETRATION FIRESTOP SYSTEM APPROPRIATE FOR THE RATING OF THE WALL BEING PENETRATED, SUBMIT PROPOSED U.L. NUMBERS AND DETAILS TO ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.

d. ACOUSTICAL WALLS: WALLS INDICATED WITH ACOUSTICAL BATT, AND/OR A GIVEN AN STC RATING, SHALL BE

1. PROVIDE ACOUSTICAL SEALANT AT ALL FLOOR AND HEAD LEVELS, EACH SIDE OF THE WALLS.

4. STAGGER OUTLETS A MINIMUM OF 24 INCHES HORIZONTAL. DO NOT INSTALL MORE THAN ONE OUTLET IN A COMMON STUD CAVITY. SEAL JOINTS AROUND OUTLETS WITH ACOUSTICAL SEALANT.

a. WALL TYPES DO NOT INDICATE FINAL FINISHES. REFER TO FINISH PLANS AND FINISH SCHEDULE.

b. GYPSUM BOARD SHALL BE TYPE "X" FIRE RATED WITH:

1. LEVEL 1 FINISH AT JOINTS WHICH WILL REMAIN CONCEALED. PROVIDE GALVANIZED STEEL CORNER BEADS AT

2. LEVEL 3 FINISH WHERE WALLS EXPOSED TO VIEW SCHEDULED FOR PAINT IN SERVICE SPACES (eg. TELE / DATA CLOSETS, MECHANICAL ROOMS, JANITOR CLOSETS, STORAGE ROOMS). 3. LEVEL 4 FINISH WHERE EXPOSED TO VIEW UPON PROJECT COMPLETION U.N.O.

4. LEVEL 5 FINISH AT GRAPHIC CORRIDOR. AS WELL AS DRY ERASE AND CHALK BOARD PAINTED AREAS. REFER TO

c. PROVIDE MOISTURE/ MOLD / ABUSE RESISTANT GYPSUM BOARD AT WALLS IN TOILET ROOMS, JANITORS CLOSETS AND

d. PROVIDE GLASS MATT GYPSUM BOARD AT WALLS DIRECTLY ADJACENT TO LIVING WALL ELEMENT AND AT ALL WET AREAS (SHOWER ROOMS, COMMUNAL KITCHEN/DISHWASHER, ETC.) GLASS MAT GYPSUM BOARD SHALL RECEIVE

2. NON-METALIC J-TRIM OR OTHER SHAPES ARE NOT ACCEPTABLE, UNLESS OTHERWISE NOTED

f. LOCATIONS WHERE GYPSUM BOARD WALLS TERMINATE AT DISSIMILAR MATERIALS, PROVIDE A FINISH-ABLE METAL END TRIM AND A 1/4" GAP BETWEEN TRIM AND ADJACENT MATERIAL. FILL GAP WITH BACKER ROD AND SEALANT.

g. PROVIDE SOLID FIRE TREATED WOOD BLOCKING IN WALL AND CEILING CONSTRUCTION AS REQUIRED TO SUPPORT WALL MOUNTED MILLWORK AND CASEWORK, FURNISHINGS, RAILINGS, GRAB BARS, TOILET & BATH ACCESSORIES OR ANY OTHER WALL MOUNTED ITEMS INDICATED ON THESE DRAWINGS REQUIRING BLOCKING.

h. PROVIDE PAPER FACED "L" SHAPED TAPE ON TRIM AT THE TOP OF ALL GYP. BD. THAT ABUTS SUSPENDED CEILINGS

1. PROVIDE CONTROL JOINTS IN EXPANSES OF WALLS AT MAXIMUM 25-FOOT INTERVALS, AND FULL HEIGHT. CONTROL JOINTS ARE RECOMMENDED AT DOOR JAMBS, EXTENDING FROM DOOR HEAD TO TOP OF WALL.

2. CONTROL JOINTS ARE REQUIRED IN CEILINGS TO LIMIT AREAS TO 2,500 SQUARE FEET. INSTALL CONTROL JOINTS IN CEILINGS TO LIMIT DIMENSIONS IN EITHER DIRECTION TO 50 FEET MAXIMUM WITH PERIMETER RELIEF, 30 FEET MAXIMUM OTHERWISE. INSTALL CONTROL JOINTS WHERE CEILING FRAMING OR FURRING CHANGES DIRECTION.

3. PROVIDE CONTROL JOINTS IN GYPSUM WALL BOARD WHERE THE UNDERLYING STRUCTURE CONTAINS A

4. IN AN ACOUSTICALLY RATED ASSEMBLY. PROVIDE ACOUSTICALLY TESTED CONTROL JOINT ASSEMBLY WITH A STC RATING MINIMALLY EQUAL TO THE WALLS STC RATING. COORDINATE REQUIRED LOCATIONS ON FEATURE WALLS WITH DESIGNER IN THE FIELD. METAL TRIM: EXPOSED METAL OR NON-METALLIC J-MOLD IS NOT ACCEPTABLE.

b. IN MASONRY WALLS, PROVIDE FULL HEIGHT CONTROL JOINTS AT MAXIMUM 30-FOOT INTERVALS. CONTROL JOINTS ARE RECOMMENDED AT DOOR JAMBS OF OPENINGS EXTENDING FULL HEIGHT OF WALL.



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Date Revised
1/24/2023

1/31/2023

BID PACKAGE #1 - QAQC/OWNER REVIEW

Description

BID PACKAGE #1 - BIDS

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Project Manager	Discipline Lead
D HOLTROP	B HUYLER
Designer	Reviewer
E POST	D HOLTROP
Date Issued	Project Number 16600.00
1/0 1/2023	10000.00

Sheet Name

GENERAL NOTES AND LEGENDS



GENERAL REQUIREMENTS:

- ALLOWANCES:
- A. AT THE EARLIEST PRACTICAL DATE AFTER AWARD OF THE CONTRACT, ADVISE ARCHITECT OF THE DATE WHEN FINAL SELECTION, OR PURCHASE AND DELIVERY, OF EACH PRODUCT OR SYSTEM DESCRIBED BY AN ALLOWANCE MUST BE COMPLETED BY THE OWNER TO AVOID DELAYING THE WORK.
- B. OBTAIN PROPOSALS FOR EACH ALLOWANCE FOR USE IN MAKING FINAL SELECTIONS. INCLUDE RECOMMENDATIONS THAT ARE RELEVANT TO PERFORMING THE WORK.
- C. SUBMIT PROPOSALS FOR PURCHASE OF PRODUCTS OR SYSTEMS INCLUDED IN ALLOWANCES IN THE FORM OF SPECIFIED FOR CHANGE ORDERS. THIS ALLOWANCE INCLUDES MATERIAL COST, RECEIVING, HANDLING, AND INSTALLATION AND CONTRACTOR OVERHEAD AND PROFIT.
- D. COORDINATE QUANTITY ALLOWANCE ADJUSTMENT WITH CORRESPONDING UNIT-PRICE REQUIREMENTS "UNIT PRICES."
- 1. QUANTITY ALLOWANCE NO. 1: INCLUDE 120 SF OF LANDSCAPING AND 300 SF OF TURF GRASS FOR THE AMOUNT OF \$2,000.00.

UNIT PRICES:

- A. UNIT PRICE IS AN AMOUNT INCORPORATED INTO THE AGREEMENT, APPLICABLE DURING THE DURATION OF THE WORK AS A PRICE PER UNIT OF MEASUREMENT FOR MATERIALS. EQUIPMENT, OR SERVICES, OR A PORTION OF THE WORK, ADDED TO OR DEDUCTED FROM THE CONTRACT SUM BY APPROPRIATE MODIFICATION, IF THE SCOPE OF WORK OR ESTIMATED QUANTITIES OF WORK REQUIRED BY THE CONTRACT DOCUMENTS ARE INCREASED OR DECREASED.
- B. UNIT PRICES INCLUDE ALL NECESSARY MATERIAL, PLUS COST FOR DELIVERY, INSTALLATION, INSURANCE, OVERHEAD, AND PROFIT.
- C. MEASUREMENT AND PAYMENT: SEE QUANTITY ALLOWANCE FOR WORK THAT REQUIRES ESTABLISHMENT OF UNIT PRICES. UNITS OF MEASUREMENT AND PAYMENT FOR UNIT PRICES ARE LISTED IN THAT SECTION.
- D. OWNER RESERVES THE RIGHT TO REJECT CONTRACTOR'S MEASUREMENT OF WORK-IN-PLACE THAT INVOLVES USE OF ESTABLISHED UNIT PRICES AND TO HAVE THIS WORK MEASURED, AT OWNER'S EXPENSE, BY AN INDEPENDENT SURVEYOR ACCEPTABLE TO CONTRACTOR. E. UNIT PRICE NO. 1 - QUANTITY ALLOWANCE NO. 1: PROVIDE COST PER UNIT LISTED FOR ADDING TO OR DEDUCTING FROM THE CONTRACT AMOUNT

ALTERNATES:

- A. ALTERNATES ARE AN AMOUNT PROPOSED BY BIDDERS AND STATED ON THE BID PROM 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 ACCEPTABLE ALTERNATES UNDER THE SAME CONDITIONS AS OTHER WORK OF THE CONTRACT.
- C. PROVIDE ALTERNATE PRICING AS FOLLOWS:
- 1. ALTERNATE NO. 1: BASE BID, SINGLE ZONE HEAT PUMP CONDENSING UNITS AS SHOWN ON DRAWING M101. ALTERNATE BID, BASE BID SINGLE ZONE HEAT PUMP CONDENSING UNITS HPCU-3 & HPCU-4 TO BE CHANGED TO A SINGLE 4 TON MULTIZONE UNIT WITH TWO HEADS (32 MCA/40 MOCP/208-230V/1PH) AS NOTED IN KEYED MECHANICAL NOTE M6. ADDITIONALLY, BASE BID SINGLE ZONE HEAT PUMP CONDENSING UNITS HPCU-7 & HPCU-8 TO BE CHANGED TO A SINGLE 4 TON MULTIZONE UNIT WITH TWO HEADS (32 MCA/40 MOCP/208-230V/1PH) AS NOTED IN KEYED MECHANICAL NOTE M7."

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
- 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 OR 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
- INFORMATION OR REJECTION WITHIN 14 DAYS OF RECEIPT. ARCHITECT WILL REVIEW RESUBMITTAL WITHIN 7 DAYS OF RECEIPT.
- J. SUBMITTALS NOT REQUIRED BY THE CONTRACT DOCUMENTS WILL BE RETURNED BY ARCHITECT WITHOUT ACTION.

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, 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, 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, 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 AND 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 AND 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.
- 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:
- 1. 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 AND 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 AND 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 WORK
- 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.

- 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.
- ELECTRONIC MANUAL TO DISPLAY BOOKMARK PANEL ON OPENING FILE.

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.

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

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

c. 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 AND 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

COMMUNITY EDUCATION CENTER

1765 ADA AVENUE MUSKEGON, MI 49442

Date Revised Description BID PACKAGE #1 - QAQC/OWNER REVIEW 1/24/2023

BID PACKAGE #1 - BIDS

1/31/2023

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Project Manager	Discipline Lead
D HOLTROP	B HUYLER
Designer	Reviewer
E POST	D HOLTROP
Date Issued 1/31/2023	Project Number 16600.00

Sheet Name

GENERAL REQUIREMENTS



SPECIFICATIONS:

1. ALUMINUM FRAMED ENTRANCES AND STOREFRONTS - PER OWNER AGREEMENT WITH VOS GLASS	7. HARDWARE	<u>E SETS</u>
A. MANUFACTURER: TUBELITE.	a. HIN	ACTURERS/PRODUC
 B. PRODUCTS: a. TYPE A: TUBELITE T14000 (4-1/2" DEPTH FRAME). 	c. EXI	LINDRICAL LOCKS: G T DEVICES: VON DU
b. TYPE B: TUBELITE TU24650 (6-1/2" DEPTH FRAME).	e. CYL	WER SUPPLIES: SCH LINDERS: CORBIN-RI
C. FRAMING MEMBERS: EXTERIOR FRAMING TO BE THERMALLY BROKEN. INTERIOR VESTIBULE FRAMING TO BE NONTHED. FINISH: EXTERIOR TO BE COLOR ANODIC FINISH AAMA 611, AA-M12C22A42/A44, CLASS 1, MINIMUM 0.7 MIL THICKNESS,	f. DOC	CHITECTURAL HARD OR CLOSERS: LCN 4 ECTRO-HYDRAULIC /
INTERIOR VESTIBULE TO BE CLEAR ANODIC FINISH AAMA 611, AA-M12C22A41, CLASS II, MINIMUM 0.4 MIL THICKNESS.	h. DOC	OR TRIM: IVES. ALSO
INFILL: 1" AT EXTERIOR AND 1/4" AT INTERIOR.	j. OVE	ERHEAD STOPS: GL' OR STOPS: IVES. AL
FABRICATION METHOD: FIELD FABRICATED STICK SYSTEM.	I. THR	RESHOLDS, SEALS, ENCERS: IVES. ALSO
UMINUM FRAMED OPERABLE WINDOWS - PER OWNER AGREEMENT WITH VOS GLASS	B. KEYING	S NSTRUCTION KEYIN
MANUFACTURER: TUBELITE.	1.	PROVIDE CONSTRU ACCORDANCE WIT
PRODUCT: CW3700 PROJECT OUT CASEMENT WINDOW.	2. 3.	SPLIT KEY OR LOST 3 CONSTRUCTION (
FRAMING MEMBERS: EXTRUSIONS ARE 2" IN DEPTH WITH 2-3/4" SIGHTLINE. FRAMES HAVE SCREW-SPLINE CONNECTION CORNERS.	5.	12 CONSTRUCTION OWNER OR OWNER
FINISH: COLOR ANODIC FINISH AAMA 611, AA-M12C22A42/A44, CLASS 1, MINIMUM 0.7 MIL THICKNESS, DARK BRONZE.	1.	MANENT KEYING: PROVIDE PERMANI A. MASTER KEYIN
HARDWARE: HEAVY DUTY SURFACE HINGES AND ROTO-CRANK OPERATED. EMERGENCY EGRESS HINGE HARDWARE	Ξ. 2.	FORWARD BITTING
SCREENS: FIBERGLASS WITH ALUMINUM FRAME, FINISH TO MATCH WINDOWS.		COST TO OWNER. PROVIDE KEYS WIT
INFILL: 1" AT EXTERIOR.		A. MATERIAL: NICHB. PATENT PROTE
LUMINUM DOORS - PER OWNER AGREEMENT WITH VOS GLASS		IDENTIFICATION: A. MARK PERMAN
MANUFACTURER: TUBELITE.		BLIND CODE MA B. IDENTIFICATION
PRODUCT: THERMLBLOCK, MEDIUM STILE WITH 5" VERTICAL STILES, 4" TOP RAIL, AND 10" BOTTOM RAIL.		C. STAMP CYLIND MANUFACTURE PATENT NUMBI
DOOR CONSTRUCTION: a. 1-3/4" OVERALL THICKNESS, WITH MIN. 0.125" THICK EXTRUDED ALUMINUM TUBULAR MEMBERS. MECHANICALLY F	ASTEN WITH	D. FAILURE TO CO ADDITIONAL CO
CONCEALED TIE RODS. b. TOP /BOTTOM OF DOOR TO RECEIVE 1/8" THICK CAP FOR FURTHER SEAL AND TO TRIM THE TOP AND BOTTOM OF	THE DOOR. 5.	E. FORWARD PER QUANTITY: FURNIS
c. GLAZING STOPS AND GASKETS: SQUARE, SNAP-ON, EXTRUDED ALUMINUM STOPS AND PREFORMED GASKETS. NO OUTSIDE DOOR.		A. CHANGE (DAY) B. MASTER KEYS:
d. EXTERIOR DOORS: AT PAIRS OF DOORS PROVIDE SLIDING-TYPE WEATHER STRIPPING RETAINED IN ADJUSTABLE MORTISED INTO DOOR EDGE.		KEYING FOR DOOF VARE SET #01 (DOO
FINISH: EXTERIOR TO BE COLOR ANODIC FINISH AAMA 611, AA-M12C22A42/A44, CLASS 1, MINIMUM 0.7 MIL THICKNESS, INTERIOR VESTIBULE TO BE CLEAR ANODIC FINISH AAMA 611, AA-M12C22A41, CLASS II, MINIMUM 0.4 MIL THICKNESS.	, DARK BRONZE. a. (3) H	HINGES - 5BB1 4.5 X CLASSROOM LOCK
INFILL: 1" AT EXTERIOR AND 1/4" AT INTERIOR.	c. (1) H d. (1) V	K-I-L CYLINDER - KE' WALL STOP - WS406
		SILENCER - SR64 - F
<u>AZING</u> GLAZING FOR ALUMINUM COMPONENTS NOTED ABOVE TO BE PER OWNER AGREEMENT WITH VOS GLASS.	a. (3) H	VARE SET #02 (DOOF HINGES - 5BB1 4.5 X CLASSROOM LOCK ·
GLAZING FOR ALUMINUM COMPONENTS NOTED ABOVE TO BE PER OWNER AGREEMENT WITH VOS GLASS. MONOLITHIC GLASS:	c. (1) ł	K-I-L CYLINDER - KE OH STOP - 410S - FII
a. HEAT STRENGTHENED FULLY TEMPERED FLOAT GLASS. b. MINIMUM 6 MM THICK.		SILENCER - SR64 - F
c. LOCATION: INTERIOR, NON-FIRE RATED LOCATIONS UNLESS OTHERWISE NOTED.	a. (3) H	/ARE SET #04 (DOOI HINGES - 5BB1 4.5 X
FIRE-RESISTANCE-RATED GLAZING a. LISTED AND LABELED BY A TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, FOR FIRE-RES	SISTANCE RATINGS c. (1) F	CLASSROOM LOCK K-I-L CYLINDER - KE
 INDICATED, BASED ON TESTING IN ACCORDANCE WITH ASTM E119 OR UL 263. b. FRAMING AND DOORS: FIRE-RESISTANCE-RATED GLAZING WITH 60, 90, 120-MINUTE RATINGS REQUIRES FRAMING 	AND DOORS FROM e. (1) F	SURFACE CLOSER - KICK PLATE - 8400 1 WALL STOP - WS406
 GLASS SUPPLIER, TESTED AS AN ASSEMBLY COMPLYING WITH ASTM E119 OR UL 263. c. LAMINATED GLASS WITH INTUMESCENT INTERLAYERS: LAMINATED GLASS MADE FROM MULTIPLE PLIES OF UNCO GLASS; WITH INTUMESCENT INTERLAYERS; COMPLYING WITH 16 CFR 1201, CATEGORY II. 		GASKETING - 488S -
 MANUFACTURERS: PILKINGTON NORTH AMERICA, SAFTI FIRST FIRE RATED GLAZING SOLUTIONS, TECHNICAL OR VETROTECH SAINT-GOBAIN. 		/ARE SET #05 (DOOI HINGES - 5BB1 4.5 X
d. GLAZING ACCESSORIES: GLAZING GASKETS, GLAZING SEALANTS, GLAZING TAPES, SETTING BLOCKS, SPACERS, E OTHER GLAZING ACCESSORIES THAT ARE COMPATIBLE WITH GLAZING PRODUCTS AND EACH OTHER AND ARE AF	EDGE BLOCKS, AND b. (1) C PPROVED BY c. (1) F	CLASSROOM LOCK K-I-L CYLINDER - KE
TESTING AGENCIES THAT LISTED AND LABELED FIRE-RESISTANT GLAZING PRODUCTS WITH WHICH PRODUCTS AF APPLICATIONS AND FIRE-PROTECTION RATINGS INDICATED.	e. (1) k	SURFACE CLOSER - KICK PLATE - 8400 1
 e. GLAZING SEALANTS FOR FIRE-RATED GLAZING PRODUCTS: NEUTRAL-CURING SILICONE GLAZING SEALANT COMP C920, TYPE S, GRADE NS, CLADD 50, USE NT. MANUFACTURERS: GE CONSTRUCTION SEALANTS, THE DOW CHEMICAL COMPANY OR TREMCO INCORPORAT 		GASKETING - 488S - VARE SET #06 (DOO
MANUFACTURERS: GE CONSTRUCTION SEALANTS, THE DOW CHEMICAL COMPANY OR TREMCO INCORPORAT INSULATED GLASS - VISION	a. (1) (CONT. HINGE - 112F CONT. HINGE - 112F
 a. CONFORMANCE: ASTM E 2190. b. BASIS OF DESIGN: GUARDIAN GLASS, SUNGUARD SN 68. 	c. (1) F d. (1) F	POWER TRANSFER REMOVABLE MULLI
c. OVERALL THICKNESS: 1 INCH. d. MINIMUM THICKNESS OF EACH GLASS LITE: 6 MM.	f. (1) E	PANIC HARDWARE
 OUTDOOR LITE: HEAT-STRENGTHENED FLOAT GLASS. INTERSPACE CONTENT: AIR OR ARGON AS REQUIRED TO MEET SPECIFIED U-FACTOR. INDOOR LITE: CLEAR FLOAT CLASS. 	ň. (1) N	RIM CYLINDER - KE` MORTISE CYLINDEF DOOR PULL - BF157
 g. INDOOR LITE: CLEAR FLOAT GLASS. h. LOW-E COATING: SPUTTERED ON NO. 2 SURFACE. i. WINTER NIGHTTIME U-FACTOR: 0.29 MAXIMUM. 	j. (2) C	DOOR PULL - BF157 OVERHEAD STOP - SURFACE CLOSER ·
 WINTER NIGHTTIME U-FACTOR: 0.29 MAXIMUM. SUMMER DAYTIME U-FACTOR: 0.28 MAXIMUM. VISIBLE LIGHT TRANSMITTANCE: 68 PERCENT 	I. (1) S	SURFACE AUTO OP PA MOUNTING PLAT
I. LOCATIONS: EXTERIOR UNLESS OTHERWISE INDICATED.	n. (1) E o. (2) A	BLADE STOP SPACE ACTUATOR, WALL N
INSULATED GLASS - SPANDREL a. CONFORMANCE: ASTM E 2190.	q. (1) C	SURFACE MOUNT B CARD READER - PR
b. BASIS OF DESIGN: GUARDIAN GLASS, SUNGUARD SN 68.c. OVERALL THICKNESS: 1 INCH.	s. (1) F	DOOR RELEASE BU POWER SUPPLY - P
 d. MINIMUM THICKNESS OF EACH GLASS LITE: 6 MM. e. OUTDOOR LITE: HEAT-STRENGTHEN FLOAT GLASS. f. INTERSPACE CONTENT: AIR OR ARGON AS REQUIRED TO MEET SPECIFIED IL FACTOR. 	u. OPE	ATHERSTRIP BY DC ERATIONAL DESCRI ADES.
 f. INTERSPACE CONTENT: AIR OR ARGON AS REQUIRED TO MEET SPECIFIED U-FACTOR. g. INDOOR LITE: CLEAR FLOAT GLASS. h. LOW-E COATING: SPUTTERED ON NO. 2 SURFACE. 	v. DOC	ORS NORMALLY CL RECEPTION DESK \
 i. GUARDIAN DECO HT IN WARM GRAY ON NO. 2 SURFACE. j. LOCATIONS: EXTERIOR WHERE INDICATED. 	EXT MOI	TERIOR ACTUATOR
DLLOW METAL FRAMES	ACT	TUATOR BUTTON W
FIRE-RATED, BORROWED-LITE ASSEMBLIES: ASSEMBLIES COMPLYING WITH NFPA 80 AND LISTED AND LABELED BY A		VARE SET #07 (DOO CONT. HINGE - 112F
AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, FOR FIRE-PROTECTION RATINGS INDICATED, BASED (ACCORDING TO NFPA 257 OR UL9.	b. (1) F	REMOVABLE MULLI PANIC HARDWARE
LUSH WOOD DOORS	d. (1) F e. (1) F	PANIC HARDWARE - RIM CYLINDER - KEY
. ACCEPTABLE MANUFACTURERS: EGGERS INDUSTRIES, OSHKOSH DOOR COMPANY, AND VT INDUSTRIES.	f. (1) M g. (2) [MORTISE CYLINDER DOOR PULL - BF157
. INTERIOR DOORS: SOLID-CORE FIVE-PLY FLUSH WOOD VENEER-FACED DOORS FOR TRANSPARENT FINISH. a. PERFORMANCE GRADE: ANSI/WDMA I.S. 1A EXTRA HEAVY DUTY.	i. (1) S	OVERHEAD STOP - SURFACE CLOSER -
 b. FACES: PLAIN SLICED RED OAK, CENTER-BALANCE MATCH. c. EXPOSED VERTICAL AND TOP EDGES: SAME SPECIES AS FACES, ARCHITECTURAL WOODWORK STANDARDS EDG d. EXPOSED VERTICAL AND TOP EDGES: CONSTRUCTION WITH INTERCEPT SEALS CONCEAN ED BY OUTER STILLE 	E TYPE A. k. (1) F	SURFACE AUTO OP PA MOUNTING PLAT BLADE STOP SPACI
 d. FIRE RATED DOORS: PROVIDE EDGE CONSTRUCTION WITH INTUMESCENT SEALS CONCEALED BY OUTER STILE. e. CORE FOR FIRE-RATED DOORS: AS REQUIRED TO ACHIEVE FIRE-PROTECTION RATING INDICATED ON SCHEDULE. 	m. (1) V	WEATHER RING - 83 ACTUATOR, WALL M
FINISH: FACTORY FINISH, TRANSPARENT, SATIN, STAIN COLOR TO BE SELECTED BY ARCHITECT FROM MANUFACTURE COLORS.	ER'S STANDARD 0. (2) S p. (1) N	SURFACE MOUNT B MULLION SEAL - 878
	q. (2) [r. (1)]	DOOR SWEEP - 8192 THRESHOLD - 655A
	t. OPE	ATHERSTRIP BY DO
	u. BOT	ADES. TH ACTUATOR BUTT
		USE THE AUTOMATI

ES. ALSO ACCEPTABLE: HAGER BB1191/1279 SERIES OR MCKINNEY TB SERIES.

RADE 1, SCHLAGE ND SERIES, NO SUBSTITUTION. PRIN 98/35A SERIES, NO SUBSTITUTION

ILAGE/VON DUPRIN PS900, NO SUBSTITUTION. USSWIN, NO SUBSTITUTION. ALL CYLINDERS/CORES AND KEYING SHALL BE PURCHASED THROUGH

WARE COMPANY, MUSKEGON, MI AND INCLUDED IN BASE BID.

040XP, NO SUBSTITUTION. AUTOMATIC OPERATOR: LCN 4600 SERIES, NO SUBSTITUTION.

D ACCEPTABLE BURNS AND ROCKWOOD. IVES. ALSO ACCEPTABLE BURNS AND ROCKWOOD.

YNN-JOHNSON. NO SUBSTITUTION. SO ACCEPTABLE BURNS AND ROCKWOOD.

GASKETING: ZERO INTERNATIONAL. ALSO ACCEPTABLE NATIONAL GUARD AND REESE ACCEPTABLE BURNS AND ROCKWOOD.

JCTION CORES THAT PERMIT VOIDING CONSTRUCTION KEYS WITHOUT CYLINDER REMOVAL, FURNISHED IN H THE FOLLOWING REQUIREMENTS.

BALL CONSTRUCTION KEYING SYSTEM. CONTROL KEYS, AND EXTRACTOR TOOLS OR KEYS AS REQUIRED TO VOID CONSTRUCTION KEYING.

CHANGE (DAY) KEYS. R'S REPRESENTATIVE WILL VOID OPERATION OF TEMPORARY CONSTRUCTION KEYS.

ENT CYLINDERS/CORES KEYED BY THE MANUFACTURER ACCORDING TO THE FOLLOWING KEY SYSTEM. G SYSTEM AS DIRECTED BY THE OWNER. LIST AND KEYS SEPARATELY FROM CYLINDERS, BY MEANS AS DIRECTED BY OWNER. FAILURE TO COMPLY G REQUIREMENTS WILL BE CAUSE FOR REPLACEMENT OF CYLINDERS/CORES INVOLVED AT NO ADDITIONAL

H THE FOLLOWING FEATURES: KEL SILVER; MINIMUM THICKNESS OF .107-INCH (2.3MM) CTION: KEYS AND BLANKS PROTECTED BY ONE OR MORE UTILITY PATENT(S).

ENT CYLINDERS/CORES AND KEYS WITH APPLICABLE BLIND CODE FOR IDENTIFICATION. DO NOT PROVIDE ARKS WITH ACTUAL KEY CUTS. I STAMPING PROVISIONS MUST BE APPROVED BY THE ARCHITECT AND OWNER.

ERS/CORES AND KEYS WITH OWNER'S UNIQUE KEY SYSTEM FACILITY CODE AS ESTABLISHED BY THE R; KEY SYMBOL AND EMBOSSED OR STAMPED WITH "DO NOT DUPLICATE" ALONG WITH THE "PATENTED" OR ER TO ENFORCE THE PATENT PROTECTION.

MPLY WITH STAMPING REQUIREMENTS WILL BE CAUSE FOR REPLACEMENT OF KEYS INVOLVED AT NO ST TO OWNER MANENT CYLINDERS/CORES TO OWNER, SEPARATELY FROM KEYS, BY MEANS AS DIRECTED BY OWNER. H IN THE FOLLOWING QUANTITIES.

KEYS: 3 PER CYLINDER/CORE. 100A: KEYED SEPARATELY FROM REMAINDER OF BUILDING. PROVIDE 7 KEYS.

R 101C)

4.5 NRP - FINISH 652 - MFR IVE - ND70LD RHO - FINISH 626 - MFR SCH

YED TO EXISTING SYSTEM, COORDINATE W/OWNER - FINISH 626 - MFR C-R 407CCV - FINISH 630 - MFR IVE INISH GRY - MFR IVE

R 101D) 4.5 NRP - FINISH 652 - MFR IVE

- ND70LD RHO - FINISH 626 - MFR SCH YED TO EXISTING SYSTEM, COORDINATE W/OWNER - FINISH 626 - MFR C-R NISH 630 - MFR GLY INISH GRY - MFR IVE

(102)

4.5 - FINISH 652 - MFR IVE - ND70LD RHO - FINISH 626 - MFR SCH YED TO EXISTING SYSTEM, COORDINATE W/OWNER - FINISH 626 - MFR C-R 4040XP RW/PA PULL SIDE - FINISH 689 - MFR LCN 0" X 2" LDW B-CS - FINISH 630 - MFR IVE /407CCV - FINISH 630 - MFR IVE FINISH BK - MFR ZER

100C)4.5 NRP - FINISH 652 - MFR IVE

- ND70LD RHO - FINISH 626 - MFR SCH YED TO EXISTING SYSTEM. COORDINATE W/OWNER - FINISH 626 - MFR C-R 4040XP SCUSH - FINISH 689 - MFR LCN 0" X 2" LDW B-CS - FINISH 630 - MFR IVE FINISH BK - MFR ZER

R 100B) ID - FINISH 628 - MFR IVE

ID EPT - FINISH 628 - MFR IVE - EPT10 - FINISH 689 - MFR VON

- ON KR4954 STAB FINISH 689 MFR VON
- 98-EO FINISH 626 MFR VON ARE - HD-QEL-98-NL-OP-110MD - RHRA - FINISH 626 - MFR VON
- ED TO EXISTING SYSTEM, COORDINATE W/OWNER FINISH 626 MFR C-R - KEYED TO EXISTING SYSTEM, COORDINATE W/OWNER - FINISH 626 - MFR C-R
- FINISH 628 MFR ROC
- 100S FINISH 630 MFR GLY 4040XP EDA - FINISH 689 - MFR LCN
- ERATOR 4642 WMS FINISH 689 MFR LCN E - 4040XP-18PA (AS REQ'D) - FINISH 689 - MFR LCN
- R 4040XP-61 (AS REQ'D) FINISH 689 MFR LCN OUNT - 8310-853T - FINISH 630 - MFR LCN
- OX 8310-867S MFR LCN

OVIDED BY SECURITY CONTRACTOR TTON - 660-PB - FINISH 628 - MFR SCE

S902 900-4RL - COORDINATE POWER SUPPLY REQUIREMENTS W/SECURITY PROVIDER - MFR VON

OR/FRAME MANUFACTURER. PTION: COORDINATE SYSTEM OPERATION AND COMPONENT LOCATIONS W/OWNER, ARCHITECT AND RELATED

DSED AND LOCKED. PRESENTING A VALID CREDENTIAL TO THE READER OR PRESSING DOOR RELEASE BUTTON /ILL MOMENTARILY RETRACT THE PANIC DEVICE LATCH ALLOWING ACCESS AND MOMENTARILY ENABLE THE BUTTON. PUSHING THE ENABLED EXTERIOR ACTUATOR BUTTON WILL CAUSE THE AUTOMATIC OPERATOR TO HE DOOR. THE INTERIOR ACTUATOR BUTTON TO BE ENABLED AT ALL TIMES. PUSHING THE INTERIOR ILL MOMENTARILY RETRACT THE PANIC DEVICE LATCH AND CAUSE THE AUTOMATIC OPERATOR TO HE DOOR. DOORS TO REMAIN LOCKED WITH LOSS OF POWER. FREE EGRESS AT ALL TIMES.

2100A)

ID - FINISH 313AN - MFR IVE ON - KR4954 STAB - FINISH 695 - MFR VON

98-EO - FINISH 313 - MFR VON 98-NL-OP-110MD - RHRA - FINISH 313 - MFR VON

ED TO EXISTING SYSTEM, COORDINATE W/OWNER - FINISH 613 - MFR C-R - KEYED TO EXISTING SYSTEM, COORDINATE W/OWNER - FINISH 613 - MFR C-R

- FINISH 313 - MFR ROC 100S - FINISH 695 - MFR GLY

4040XP EDA - FINISH 695 - MFR LCN

ERATOR - 4642 WMS - FINISH 695 - MFR LCN E - 4040XP-18PA (AS REQ'D) - FINISH 695 - MFR LCN

R - 4040XP-61 (AS REQ'D) - FINISH 695 - MFR LCN 10-801 - MFR LCN

10UNT - 8310-853T - FINISH 630 - MFR LCN

OX - 8310-867S - MFR LCN 0N - FINISH BK - MFR ZER

2D - FINISH D - MFR ZER FINISH A - MFR ZER

OR/FRAME MANUFACTURER.

PTION: COORDINATE SYSTEM OPERATION AND COMPONENT LOCATIONS W/OWNER, ARCHITECT AND RELATED

ONS ARE ENABLED WHEN THE OPERATOR IS TURNED ON. PUSHING EITHER ENABLED ACTUATOR BUTTON WILL C OPERATOR TO MOMENTARILY OPEN THE DOOR WHEN THE PANIC DEVICES ARE DOGGED DOWN (LATCHES IN RETRACTED POSITION). FREE EGRESS AT ALL TIMES.

J. HARDWARE SET # 08 (DOOR 105) a. (1) DOOR RELEASE BUTTON - 660-PB - FINISH 628 - MFR SCE

b. BALANCE OF HARDWARE TO REMAIN. K. HARDWARE SET #09 (DOORS 101A AND 101B)

a. (1) MORTISE CYLINDER - KEYED TO EXISTING SYSTEM, COORDINATE W/OWNER - FINISH 626 - MFR C-R b. BALANCE OF HARDWARE BY DOOR MANUFACTURER. c. NOTE: VERIFY CYLINDER COMPATIBILITY W/DOOR MANUFACTURER PRIOR TO ORDER.

8. FIBER-CEMENT SIDING

A. MANUFACTURER: NICHIHA CORPORATION, WWW.NICHIHA.COM

- B. PRODUCT: VINTAGE WOOD. a. COLOR: CEDAR.
- b. PROFILE: WOOD PLANK TEXTURE W/THREE, 3/8" GROOVES RUNNING LENGTHWISE, SPACED 5-5/8" APART C. ACCESSORY/COMPONENTS:
- a. MANUFACTURED CORNERS WITH 3-1/2" RETURNS FOR EACH PROFILE COLOR. b. ALUMINUM TRIM OPTIONS: CORNER KEY, OPEN OUTSIDE CORNER, H-MOLD, J-MOLD, COMPRESSION JOINT, INSIDE CORNER
- FINISH: CEDAR c. ESSENTIAL FLASHING SYSTEM: STARTER, OVERHANG.
- FINISH: MATTE BLACK.
- D. DIMENSIONS: a. AWP-1818: 455MM (17-7/8") (H) X 1,818 MM (71-9/16") (L).
- b. PANEL THICKNESS: 16MM (5/8") c. WEIGHT: 35.27 LBS. PER PANEL
- d. COVERAGE: 8.88 SQ FT PER PANEL
- e. FACTORY SEALED ON SIX (6) SIDES
- E. INSTALLATION COMPONENTS a. ULTIMATE CLIP SYSTEM:
 - STARTER TRACK:
 - 1. HORIZONTAL PANEL INSTALLATIONS FA 700 3,030 MM (L) GALVALUME COATED STEEL. PANEL CLIPS: JEL 778 "ULTIMATE CLIP II" (10 MM RAINSCREEN FOR 16 MM AWP) - ZINC-ALUMINUM-MAGNESIUM ALLOY COATED STEEL 1. JOINT TAB ATTACHMENTS (INCLUDED) - USED AT ALL PANEL TO PANEL VERTICAL JOINTS.
 - CORNER CLIPS: JE 777C (10 MM RAINSCREEN FOR 5/8" AWP MANUFACTURED CORNERS) ZINC-ALUMINUM-MAGNESIUM ALLOY COATED STEEL
 - SINGLE FLANGE SEALANT BACKER FHK 1015 R (10 MM) 6.5' (L) FLUORINE COATED GALVALUME. DOUBLE FLANGE SEALANT BACKER - FH 1015 R (10 MM) - 10' (L) FLUORINE COATED GALVALUME.
 - CORRUGATED SPACER FS 1005 (5 MM), FS 1010 (10 MM) 4' (L).
- ALUMINUM TRIM (OPTIONAL): PAINT PRIMED TRIM AS SPECIFIED IN FINISH SCHEDULE. c. ESSENTIAL FLASHING SYSTEM (OPTIONAL): • STARTER- MAIN SEGMENTS (3,030 MM), INSIDE CORNERS, OUTSIDE CORNERS OVERHANG - MAIN SEGMENTS (3,030 MM), INSIDE CORNERS, OUTSIDE CORNERS, JOINT CLIPS
- d. FASTENERS: CORROSION RESISTANT FASTENERS, SUCH AS HOT-DIPPED GALVANIZED SCREWS APPROPRIATE TO LOCAL BUILDING CODES AND PRACTICES MUST BE USED. USE STAINLESS STEEL FASTENERS IN HIGH HUMIDITY AND HIGH-MOISTURE REGIONS. PANEL MANUFACTURER IS NOT LIABLE FOR CORROSION RESISTANCE OF FASTENERS. DO NOT USE ALUMINUM FASTENERS, STAPLES, OR FASTENERS THAT ARE NOT DESIGNED FOR INTENDED USE. SEE MANUFACTURER;S INSTRUCTIONS FOR APPROPRIATE FASTENERS FOR CONSTRUCTION METHOD USED.
- e. FLASHING: FLASH ALL AREAS SPECIFIED IN MANUFACTURER'S INSTRUCTIONS. DO NOT USE RAW ALUMINUM FLASHING. FLASHING MUST BE GALVANIZED, ANODIZED, OR PVC COATED. f. SEALANT: SEALANT SHALL COMPLY WITH ASTM C920, CLASS 35.

9. ALUMINUM METAL PLATE WALL PANELS

- A. MANUFACTURER: DRI-DESIGN, WWW.DRI-DESIGN.COM
- B. PRODUCT: EN-V
- C. FINISH: SUPERIOR PERFORMANCE ORGANIC COATING SYSTEM a. COMPLY WITH NAAMM'S - METAL FINISHES MANUAL FOR ARCHITECTURAL AND METAL PRODUCTS, FOR RECOMMENDATIONS OF
- DESIGNATING FINISHES. b. AAMA 2605 MULTIPLE COAT, THERMALLY CURED POLYVINYLIDENE FLUORIDE (PVDF) RESIN SYSTEM TWO-COAT FLUOROPOLYMER: 1. AAMA 2605, FLUOROPOLYMER FINISH CONTAINING NOT LESS THAN 70 PERCENT PVDF RESIN BY WEIGHT IN COLOR COAT.
- PREPARE, PRE-TREAT, AND APPLY COATING TO EXPOSED METAL SURFACES TO COMPLY WITH COATING AND RESIN MANUFACTURERS' INSTALLATION INSTRUCTIONS. TWO-COAT MICA FLUOROPOLYMER:
- 1. AAMA 2605, FLUOROPOLYMER FINISH WITH SUSPENDED MICA FLAKES CONTAINING NOT LESS THAN 70 PERCENT PVDF RESIN BY WEIGHT IN COLOR COAT. PREPARE, PRE-TREAT, AND APPLY COATING TO EXPOSED SURFACES TO COMPLY WITH COATING AND RESIN MANUFACTURERS' INSTALLATION INSTRUCTIONS. c. FIELD TOUCH-UP MATERIALS: AS RECOMMENDED BY COATING MANUFACTURER FOR FIELD APPLICATION
- D. COLOR:
- a. DARK BRONZE ANODIZED (OR SIMILAR DARK BRONZE EN-V-007)
- b. CLEAR ANODIZED (OR SIMILAR SILVER EN-V-025) c. CUSTOM COLOR: SHERWIN-WILLIAMS
- SW 6314 LUXURIOUS RED
- E. ACCESSORIES: PROVIDE COMPONENTS REQUIRED FOR A COMPLETE METAL PLATE WALL PANEL ASSEMBLY INCLUDING TRIM, COPINGS, FASCIA, MULLIONS, SILLS, CORNER UNITS, FLASHINGS, AND SIMILAR ITEMS. MATCH MATERIALS AND FINISH OF PANELS UNLESS OTHERWISE INDICATED
- a. PROVIDE INTEGRAL DRAINAGE SYSTEM AND MANUFACTURERS' STANDARD EXTRUSIONS AT TERMINATION OF DISSIMILAR MATERIALS. b. FLASHING AND TRIM: MATCH MATERIAL, FINISH, AND COLOR OF ADJACENT WALL PANELS. THICKNESS: AT LEAST 0.040 INCH.
- c. PANEL FASTENERS: DESIGNED TO WITHSTAND DESIGN LOADS, WITH AT LEAST 7/16 INCH DIAMETER HEAD AND NEOPRENE WASHER. ALUMINUM WALL PANEL MATERIAL: PROVIDE STAINLESS STEEL FASTENERS, OR COATED FASTENER APPROVED BY PANEL MANUFACTURER OR PROJECT WALL CONSULTANT.
- d. SUB-GIRTS: GALVANIZED, PROVIDE SIZE AND GAGE IN ACCORDANCE WITH PROJECT REQUIREMENTS. • FURRING CHANNEL: PROVIDE HATE, C, U, OR Z TYPE AS RECOMMENDED BY MANUFACTURER. • FLAT STRAP: AT LEAST 14 GAUGE, 0.0747 INCH (1.90 MM) THICK.
- e. SUBSTRATE WALL SHEATHING: PLYWOOD, PS 1, GRADE C-D, EXPOSURE I, AT LEAST 5/8 INCH THICK. WEATHER BARRIERS: PROVIDE CLIMATE SPECIFIC WEATHER BARRIER WITH PERFORMANCE CHARACTERISTICS FOR AIR PENETRATION, WATER VAPOR TRANSMISSION, AND WATER PENETRATION RESISTANCE.
- F. SEALANTS: AS RECOMMENDED BY METAL PANEL MANUFACTURER FOR OPENINGS WITHIN WALL PANELS AND PERIMETER CONDITIONS.

10. INTERIOR ALUMINUM PARTITIONS

- A. MANUFACTURER: WILSON PARTITIONS OR APPROVED COMPARABLE PRODUCT AND MANUFACTURER.
- B. PRODUCT: SNAP-ON TRIM PROFILE FLUSH SLIDER, SERIES 500.
- C. FRAMES: RECTILINEAR DESIGN, 1-1/2" TRIM, 4-7/8" THROAT, TRACK, FASCIA, AND FLOOR GUIDE INCLUDED, SOFT OPEN/CLOSE ROLLERS RATED UP TO 260 LBS, LOCKING HARDWARE.
- D. DOORS: 1-3/4" DOORS, TUBULAR DESIGN, 1/2" GLASS STOPS FOR 1/4" GLASS, 3-1/2" MEDIUM STILE, 3-1/4" TOP AND 10" BOTTOM RAIL.
- E. GLAZING: PER GLAZING SPECIFICATION.

A. MANUFACTURER: KNAPE & VOGT, WWW.KV.COM

A. MANUFACTURER: MULL-IT-OVER PRODUCTS.

B. PRODUCT: 82 SERIES STANDARDS AND 182 SERIES BRACKETS.

a. STANDARDS: 1-1/16" W. X 11/16" D. X 94" L., 14 GA. STEEL.

B. PRODUCT: CLASSIC SOUND BARRIER MULLION TRIM CAP, STC 60.

d. ACCESSORIES AS REQUIRED FOR A COMPLETE INSTALLATION.

11. SHELF STANDARDS AND BRACKETS

c. FINISH: TITANIUM.

12. MULLION TRIM CAPS

F. FINISH: CLEAR ANODIC COATING, COMPLY WITH AAMA 611, AAM12C22A21 ANODIZED COATING.

b. BRACKETS: 14-1/2" D. FOR 16" D. SHELVES, 16 GA. STEEL, VERTICALLY ADJUSTABLE IN 1-1/4" INCREMENTS.



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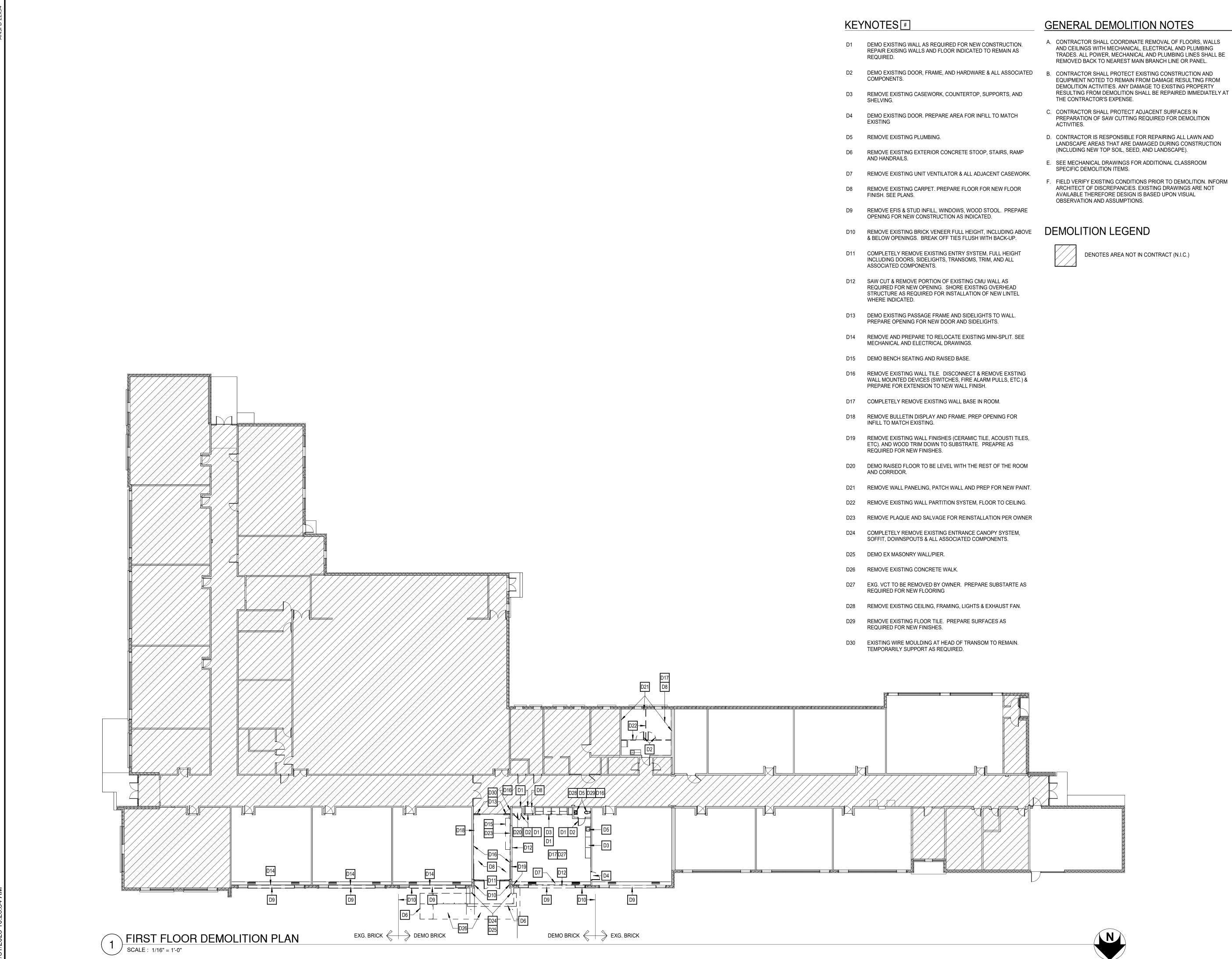
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Project Manager	Discipline Lead
D HOLTROP	B HUYLER
Designer	Reviewer
E POST	D HOLTROP
Date Issued	Project Number
1/31/2023	16600.00

Sheet Name

SPECIFICATIONS





DT	REPAIR EXISING WALLS AND FLOOR INDICATED TO F REQUIRED.
D2	DEMO EXISTING DOOR, FRAME, AND HARDWARE & A COMPONENTS.
D3	REMOVE EXISTING CASEWORK, COUNTERTOP, SUPF SHELVING.
D4	DEMO EXISTING DOOR. PREPARE AREA FOR INFILL T EXISTING
D5	REMOVE EXISTING PLUMBING.
D6	REMOVE EXISTING EXTERIOR CONCRETE STOOP, ST AND HANDRAILS.
D7	REMOVE EXISTING UNIT VENTILATOR & ALL ADJACEN
D8	REMOVE EXISTING CARPET. PREPARE FLOOR FOR N FINISH. SEE PLANS.
D9	REMOVE EFIS & STUD INFILL, WINDOWS, WOOD STO OPENING FOR NEW CONSTRUCTION AS INDICATED.
D10	REMOVE EXISTING BRICK VENEER FULL HEIGHT, INC & BELOW OPENINGS. BREAK OFF TIES FLUSH WITH I
D11	COMPLETELY REMOVE EXISTING ENTRY SYSTEM, FU INCLUDING DOORS, SIDELIGHTS, TRANSOMS, TRIM, A ASSOCIATED COMPONENTS.
D12	SAW CUT & REMOVE PORTION OF EXISTING CMU WA REQUIRED FOR NEW OPENING. SHORE EXISTING OV STRUCTURE AS REQUIRED FOR INSTALLATION OF NI WHERE INDICATED.
D13	DEMO EXISTING PASSAGE FRAME AND SIDELIGHTS T PREPARE OPENING FOR NEW DOOR AND SIDELIGHT
D14	REMOVE AND PREPARE TO RELOCATE EXISTING MIN MECHANICAL AND ELECTRICAL DRAWINGS.
D15	DEMO BENCH SEATING AND RAISED BASE.
D16	REMOVE EXISTING WALL TILE. DISCONNECT & REMO WALL MOUNTED DEVICES (SWITCHES, FIRE ALARM F PREPARE FOR EXTENSION TO NEW WALL FINISH.
D17	COMPLETELY REMOVE EXISTING WALL BASE IN ROO
D18	REMOVE BULLETIN DISPLAY AND FRAME. PREP OPEN INFILL TO MATCH EXISTING.
D19	REMOVE EXISTING WALL FINISHES (CERAMIC TILE, A ETC). AND WOOD TRIM DOWN TO SUBSTRATE. PREA REQUIRED FOR NEW FINISHES.
D20	DEMO RAISED FLOOR TO BE LEVEL WITH THE REST (AND CORRIDOR.
D21	REMOVE WALL PANELING, PATCH WALL AND PREP F
D22	REMOVE EXISTING WALL PARTITION SYSTEM, FLOOP
D23	REMOVE PLAQUE AND SALVAGE FOR REINSTALLATION
D24	COMPLETELY REMOVE EXISTING ENTRANCE CANOP SOFFIT, DOWNSPOUTS & ALL ASSOCIATED COMPON
D25	DEMO EX MASONRY WALL/PIER.
D26	REMOVE EXISTING CONCRETE WALK.
D27	EXG. VCT TO BE REMOVED BY OWNER. PREPARE SU REQUIRED FOR NEW FLOORING
D28	REMOVE EXISTING CEILING, FRAMING, LIGHTS & EXH
D29	REMOVE EXISTING FLOOR TILE. PREPARE SURFACE REQUIRED FOR NEW FINISHES.
D20	

GENERAL DEMOLITION NOTES

BERGMANN ARCHITECTS ENGINEERS PLANNERS

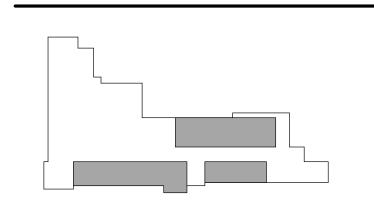
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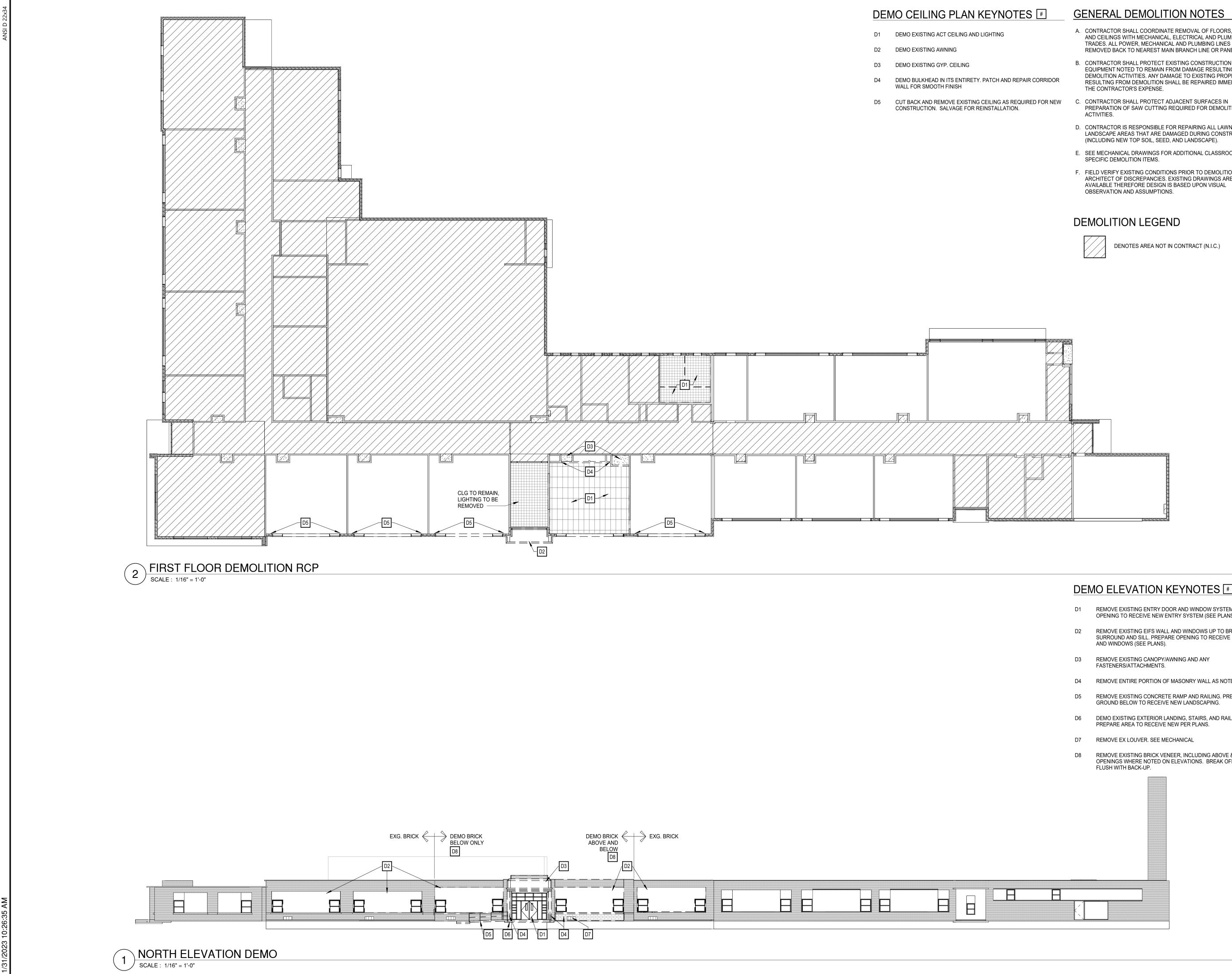
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Designer	Reviewer
E POST	R KEUNEKE
Date Issued	Project Number
1/31/2023	16600.00
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Sheet Name

FIRST FLOOR DEMOLITION PLAN





GENERAL DEMOLITION 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
- PREPARATION OF SAW CUTTING REQUIRED FOR DEMOLITION
- D. CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL LAWN AND LANDSCAPE AREAS THAT ARE DAMAGED DURING CONSTRUCTION (INCLUDING NEW TOP SOIL, SEED, AND LANDSCAPE).
- E. SEE MECHANICAL DRAWINGS FOR ADDITIONAL CLASSROOM
- F. FIELD VERIFY EXISTING CONDITIONS PRIOR TO DEMOLITION. INFORM ARCHITECT OF DISCREPANCIES. EXISTING DRAWINGS ARE NOT AVAILABLE THEREFORE DESIGN IS BASED UPON VISUAL

DEMOLITION LEGEND



DENOTES AREA NOT IN CONTRACT (N.I.C.)

DEMO ELEVATION KEYNOTES 🔳

- D1 REMOVE EXISTING ENTRY DOOR AND WINDOW SYSTEM. PREPARE OPENING TO RECEIVE NEW ENTRY SYSTEM (SEE PLANS).
- D2 REMOVE EXISTING EIFS WALL AND WINDOWS UP TO BRICK SURROUND AND SILL. PREPARE OPENING TO RECEIVE NEW INFILL
- D3 REMOVE EXISTING CANOPY/AWNING AND ANY
- D4 REMOVE ENTIRE PORTION OF MASONRY WALL AS NOTED.
- D5 REMOVE EXISTING CONCRETE RAMP AND RAILING. PREPARE GROUND BELOW TO RECEIVE NEW LANDSCAPING.
- D6 DEMO EXISTING EXTERIOR LANDING, STAIRS, AND RAILING.
- D7 REMOVE EX LOUVER. SEE MECHANICAL
- D8 REMOVE EXISTING BRICK VENEER, INCLUDING ABOVE & BELOW OPENINGS WHERE NOTED ON ELEVATIONS. BREAK OFF TIES



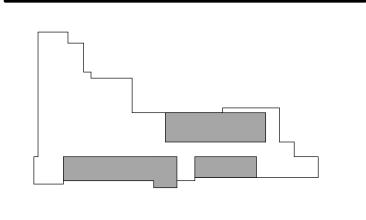
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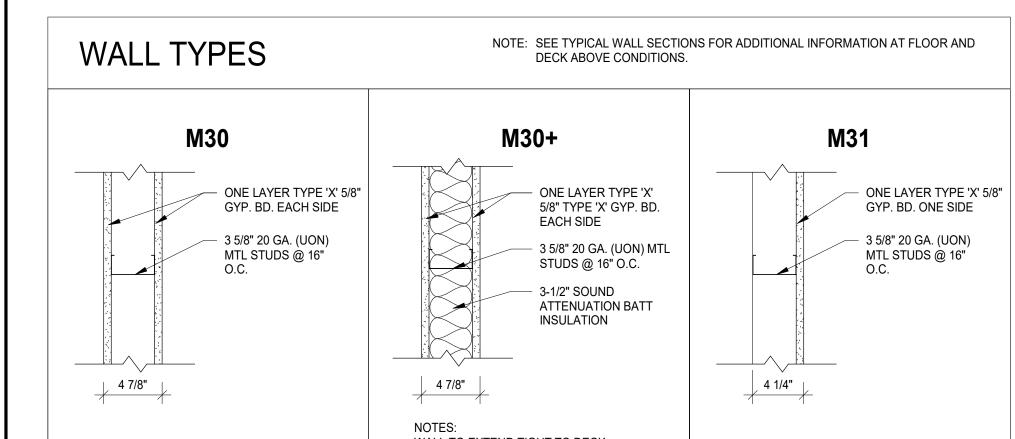
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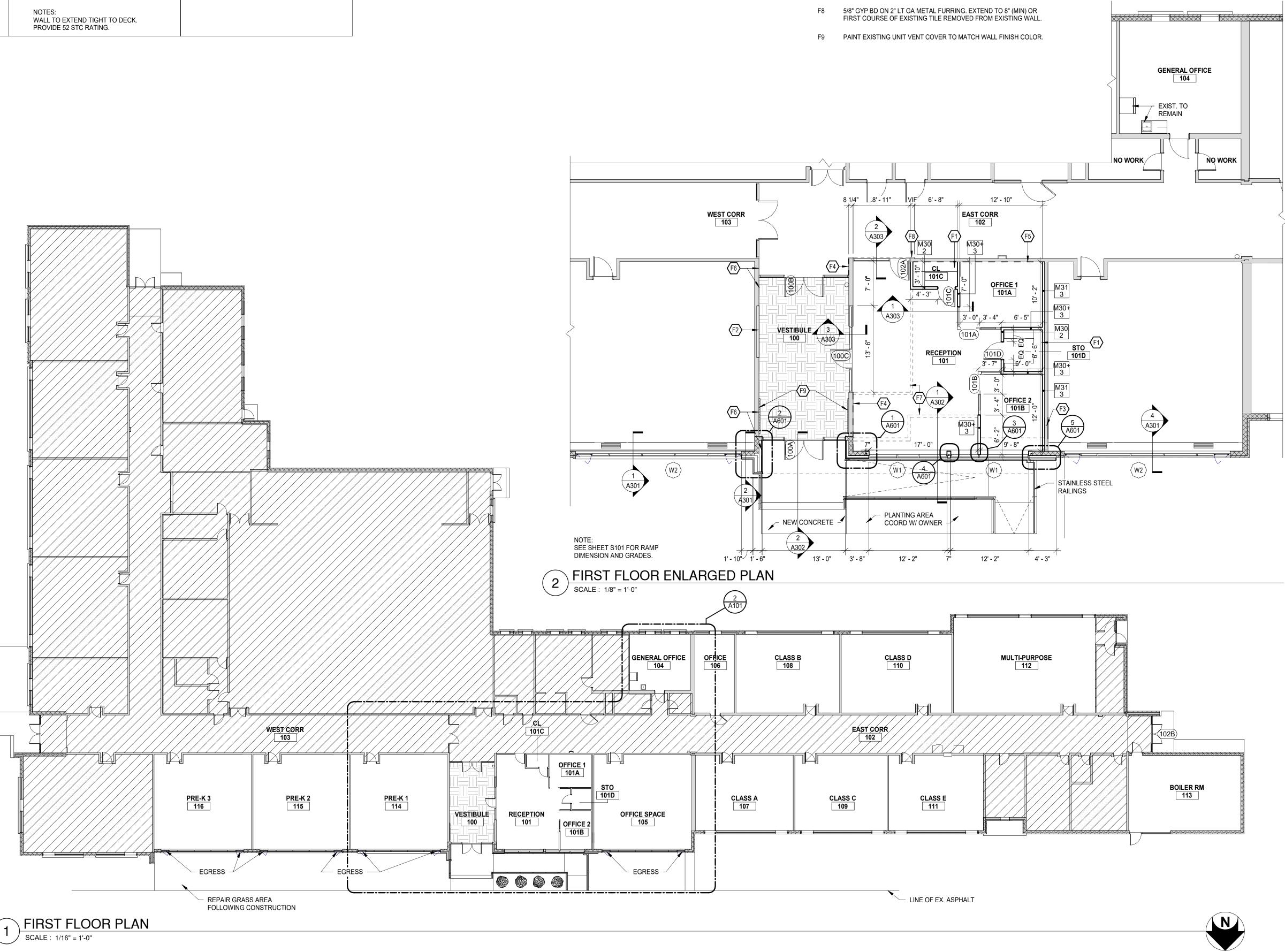
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Designer	Reviewer
E POST	R KEUNEKE
Date Issued	Project Number
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Sheet Name

FIRST FLOOR DEMOLITION CEILING PLAN AND EXTERIOR ELEVATION







WALL LEGEND

	WALL MATERIAL	WALL SIZES	
WALL MATERIAL - SEE BELOW WALL SIZE - SEE BELOW WALL TYPE - 0, 1, 2, 3 ETC.	C = CONCRETE MASONRY UNITS	4 = 4" NOMINAL, 3 5/8" ACTUAL 6 = 6" NOMINAL, 5 5/8" ACTUAL 8 = 8" NOMINAL, 7 5/8" ACTUAL	
60	F = FURRING CHANNEL	1 = 7/8" METAL HAT CHANNEL @ 24" O.C. 2 = 1-1/2" METAL HAT CHANNEL @ 24" O.	
	M = METAL STUD	1 = 1-5/8" METAL STUDS @ 16" O.C. 2 = 2-1/2" METAL STUDS @ 16" O.C. 3 = 3-5/8" METAL STUDS @ 16" O.C. 6 = 6" METAL STUDS @ 16" O.C.	
	WALL INFORMATION		
REF WALL TYPES AND DETAILS; SEE THIS SHEET	1 = WALL HEIGHT STUD FRAMING AND GYP BOARD FINISH TO DECK ABOVE 2 = GYP BOARD FINISH TO 8" ABOVE CEILING 3 = SOUND ATTENUATION CAVITY BATT INSULATION FULL HEIGHT, FLOOR TO DECI		

COLUMN ENCLOSURES, CHASES AND ENCLOSED UNINHABITABLE SPACES ARE TO BE WALL TYPE M31, UNLESS NOTED OTHERWISE.

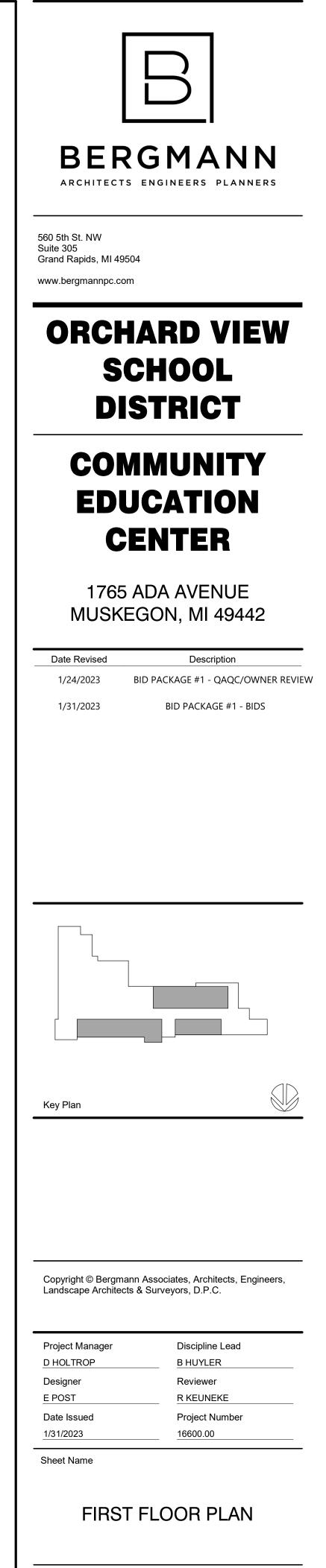
KEYNOTES

- 16" ADJUSTABLE WALL SHELVING W/ 2 STANDARDS EACH WALL F1 BRACKETS. MELAMINE FINISH.
- INFILL OPENING FROM BULLETIN/DISPLAY REMOVAL W/ GYP ON METAL STUDS TO CREATE FLUSH CONDITION W/ EXISTING WALL WALL CONSTRUCTION TO MAINTAIN EXISTING FIRE RATING.
- NEW WALL INFILL AT DOOR REMOVAL. MATCH FINISH OF ADJAC F3 WALLS.
- TYPE X DRYWALL ON 3/4" HAT CHANNEL ON EXISTING WALL. F4 MAINTAIN FIRE RATING.
- NEW LAYER OF TYPE X GYP ON 3/4" HAT CHANNEL FURRING ON F5 ENTIRE LENGTH OF EXISTING MASONRY WALL FOR SMOOTH SURFACE FINISH. MAINTAIN FIRE RATING.
- NEW ADA PUSH BUTTONS EITHER SIDE OF ENTRANCE. F6
- F7 BULKHEAD ABOVE

GENERAL NOTES

L ON	Α.	REFER TO A001 FOR GENERAL NOTES AND LEGENDS.
N	В.	REFER TO A120 SERIES DRAWINGS FOR REFLECTED CEILING PLANS AND DETAILS. (FUTURE BP)
LL.	C.	REFER TO A140 SERIES DRAWINGS FOR FINISH PLANS, SCHEDULES, AND DETAILS. (FUTURE BP)
CENT	D.	REFER TO A600 SERIES DRAWINGS FOR DOOR SCHEDULE, WINDOW

- SCHEDULE, DETAILS, AND BASIS OF DESIGN. E. ALL DOORS TO BE LOCATED 4" FROM DRYWALL ADJACENT WALL UNLESS OTHERWISE NOTED.
- F. ALIGN FACES OF MASONRY AND STUD WALLS INDICATED IN THE SAME PLANE ON PLANS, U.O.N.



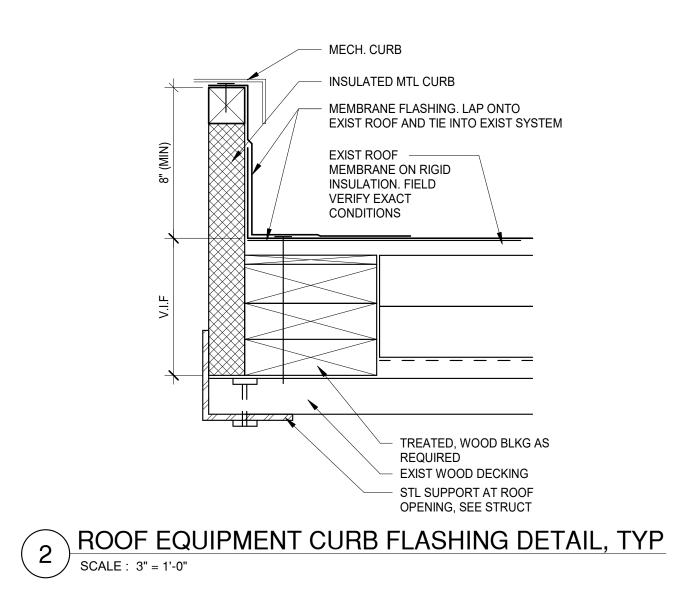
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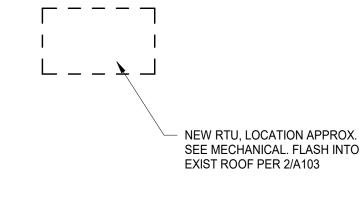
A101



 $\begin{pmatrix} 2\\ A301 \end{pmatrix}$

3 A301





 PROVIDE SCUPPER THRU
 SIDE OF WALL W/ DOWNSPOUT
 TO BELOW A302 A30

SLOPE 1/8"

— DRIP EDGE

ROOF PLAN - ENLARGED AREA OF WORK

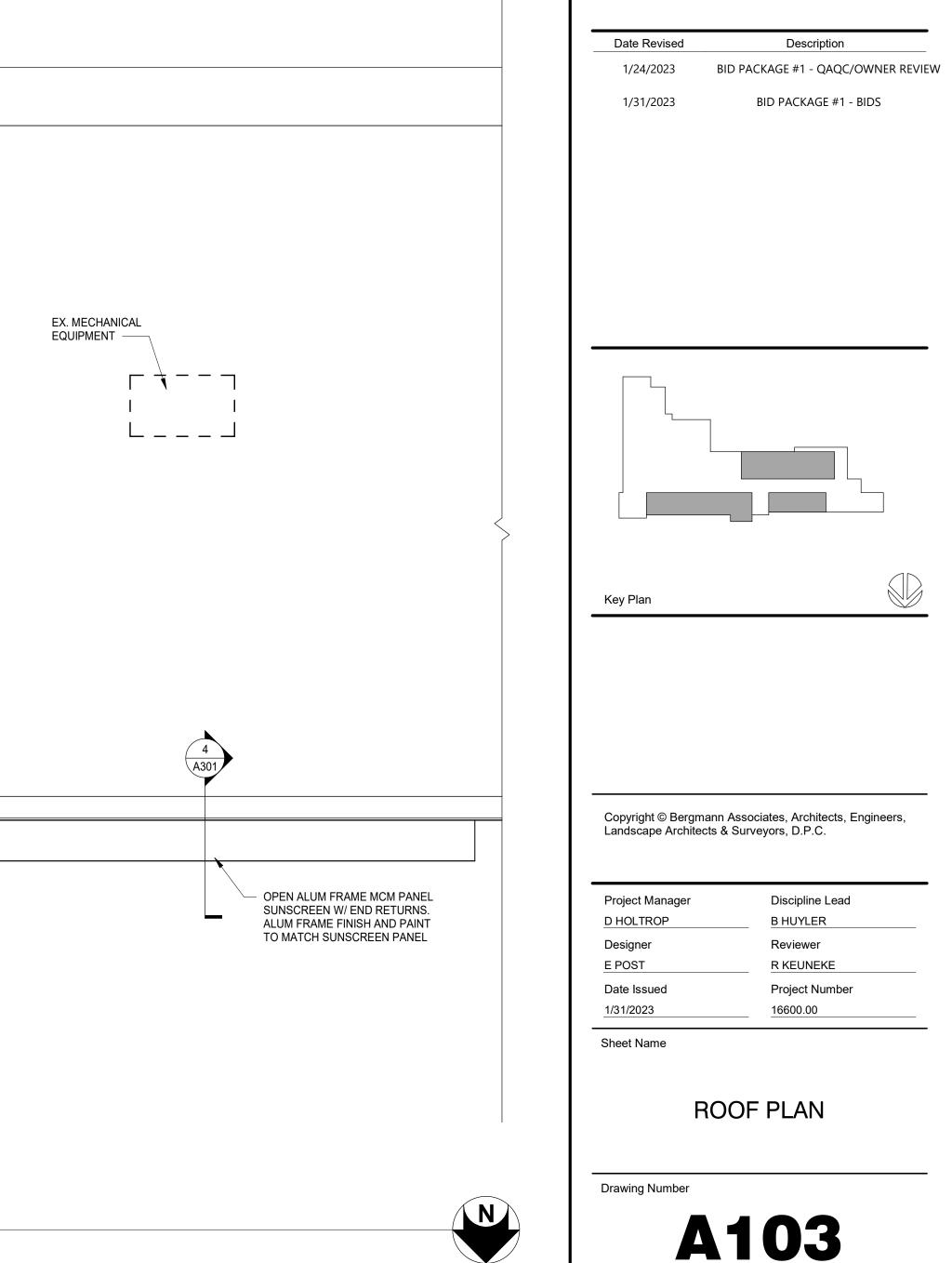
GENERAL ROOF PLAN NOTES

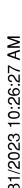
- A. CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR THEM.
- B. FLASH ALL NEW PENETRATIONS INTO EXISTING ROOF TO MAINTAIN A WATER TIGHT SYSTEM.
- C. ALL MECHANICAL ITEMS ARE SHOWN FOR GENERAL LAYOUT ONLY. VERIFY EXACT SIZE AND LOCATION WITH MECHANICAL.
- D. EXISTING ROOF WARRANTY: THERE IS AN EXISTING MANUFACTURER'S WARRANTY IN EFFECT. THIS WARRANTY MUST BE MAINTAINED THROUGHOUT THE DURATION OF ALTERATIONS TO THE EXISTING ROOF SYSTEM. UPON COMPLETION, PROVIDE CERTIFIED STATEMENT FROM EXISTING ROOF MEMBRANE MANUFACTURER STATING THAT EXISTING ROOF WARRANTY HAS NOT BEEN AFFECTED BY WORK PERFORMED UNDER THIS SECTION.

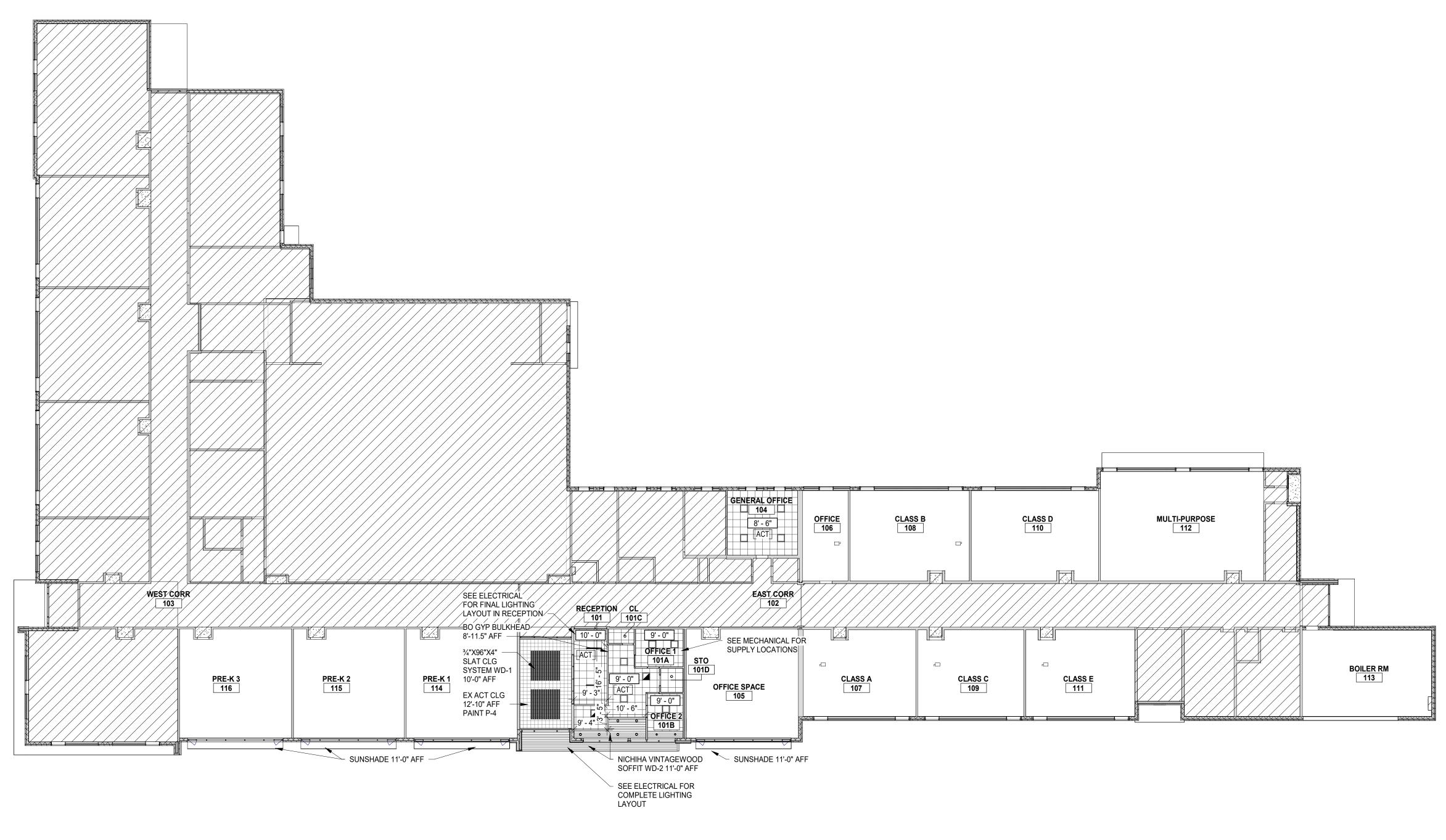


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LEGEND

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



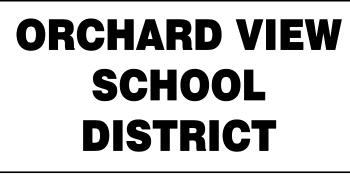
- 2' x 4' SUSPENDED CEILING TILE

GYPSUM BOARD CEILING/SOFFIT

OPEN TO DECK



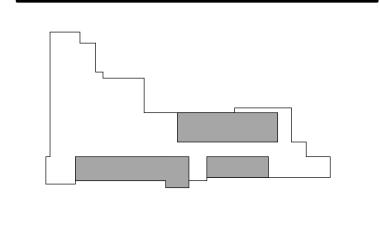
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Designer	Reviewer
E POST	R KEUNEKE
Date Issued	Project Number
1/31/2023	16600.00

FIRST FLOOR CEILING PLAN

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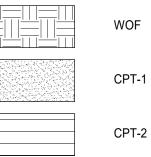
BASIS OF DESIGN	
095113 ACOUSTICAL PANEL CEILINGS	098433 INTERIOR PAINT
ACT-1: ACOUSTICAL CEILING TILE; 24" x 24" MANUFACTURER: ARMSTRONG STYLE: CALLA COLOR: WHITE EDGE: SQUARE LAY-IN GRID: 15/16" WHITE NOTE: 096513 RESILIENT BASE RB-1: RESILIENT WALL BASE; 4" H MANUFACTURER: JOHNSONITE STYLE: TRADITIONAL 4" DC COLOR: 48 GREY TOE STYLE: COVE NOTE:	P-1: FIELD - INTERIOR PAINT MANUFACTURER: SHERWIN-WILLIAMS COLOR: SW 7005 PURE WHITE FINISH: FINISH: SATIN LOCATION: INTERIOR WALLS P-2: ACCENT - INTERIOR PAINT MANUFACTURER: SHERWIN-WILLIAMS COLOR: COLOR: SW7071 GRAY SCREEN FINISH: LOCATION: OFFICE CORRIDOR BUMP OUT P-3: ACCENT - HM DOOR FRAMES MANUFACTURER: MANUFACTURER: SHERWIN-WILLIAMS COLOR: COLOR: SW7071 GRAY SCREEN FINISH: P-3: ACCENT - HM DOOR FRAMES MANUFACTURER: MANUFACTURER: SHERWIN-WILLIAMS COLOR: FINISH: SEMI-GLOSS P-4: FIELD - CEILING
096813 TILE CARPET CPT-1: CARPET TILE; 18" x 36" MANUFACTURER: SHAWCONTRACT COLLECTION: COLOR AT WORK II STYLE: CHROMATONE TILE COLOR: CHARCOAL TAUPE NOTE: ASHLAR PATTERN, LENGTH EAST-WEST CPT-2: CARPET TILE; 18" x 36" MANUFACTURER: SHAWCONTRACT COLLECTION: COLOR AT WORK II STYLE: CHROMATONE TILE	MANUFACTURER: SHERWIN-WILLIAMS COLOR: SW6258 TRICORN BLACK FINISH: TBD LOCATION: VESTIBULE CEILING TILES
	124813 ENTRANCE MATS & GRIDS WOF: VINYL GRID SYSTEMS W/ CARPET MANUFACTURER: PORTICO SYSTEMS COLLECTION: SNAP TRAX PLUS TILE COLOR: GREY LOCATION: VESTIBULE NOTE:
COLOR: CRIMSON TAUPE NOTE: ASHLAR PATTERN, LENGTH EAST-WEST FULL TILE ACCENT PER DRAWINGS	095400 SPECIALTY CEILINGS WD-1: SLAT CEILING PANEL SYSTEM
066116 SOLID SURFACE	MANUFACTURER: ARMSTRONG COLLECTION: WOODWORKS GRILLE - FORTE VENEERED COLOR: QUARTERED WALNUT
SS-1: SOLID SURFACE MANUFACTURER: CORIAN COLOR: SORREL FINISH: TBD NOTE: WINDOW INTERIOR SILLS	LOCATION: VESTIBULE NOTE: ITEM 6334 L8 S17 NQW WD-2: FIBERCEMENT PANEL SYSTEM MANUFACTURER: NICHIHA COLLECTION: VINTAGEWOOD COLOR: CEDAR LOCATION: RECEPTION CEILING AND EXTERIOR

NOTE:

PER ELEVATIONS

			ROOM	FINISH SCHE	EDULE				
ROOM					WA	LLS			
NUMBER	ROOM NAME	FLOOR	BASE	NORTH	SOUTH	EAST	WEST	CEILING	REMARK
FINISHED FLC	ÓR						1		
100	VESTIBULE	WOF	RB-1	P-1	P-1	P-1	P-1	P-4/WD-1	
101	RECEPTION	CPT-1/CPT-2	RB-1	P-1	P-1	P-1	P-1	ACT-1/WD-2	
101A	OFFICE 1	CPT-2	RB-1	P-1	P-1	P-1	P-1	ACT-1	
101B	OFFICE 2	CPT-2	RB-1	P-1	P-1	P-1	P-1	ACT-1	
101C	CL	CPT-1	RB-1	P-1	P-1	P-1	P-1	ACT-1	
101D	STO	CPT-1	RB-1	P-1	P-1	P-1	P-1	ACT-1	
102	EAST CORR	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	NO RENO PHASE 1
103	WEST CORR	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	NO RENO PHASE 1
104	GENERAL OFFICE	CPT-1	RB-1	P-1	P-1	P-1	P-1	ACT-1	

FINISH HATCH LEGEND



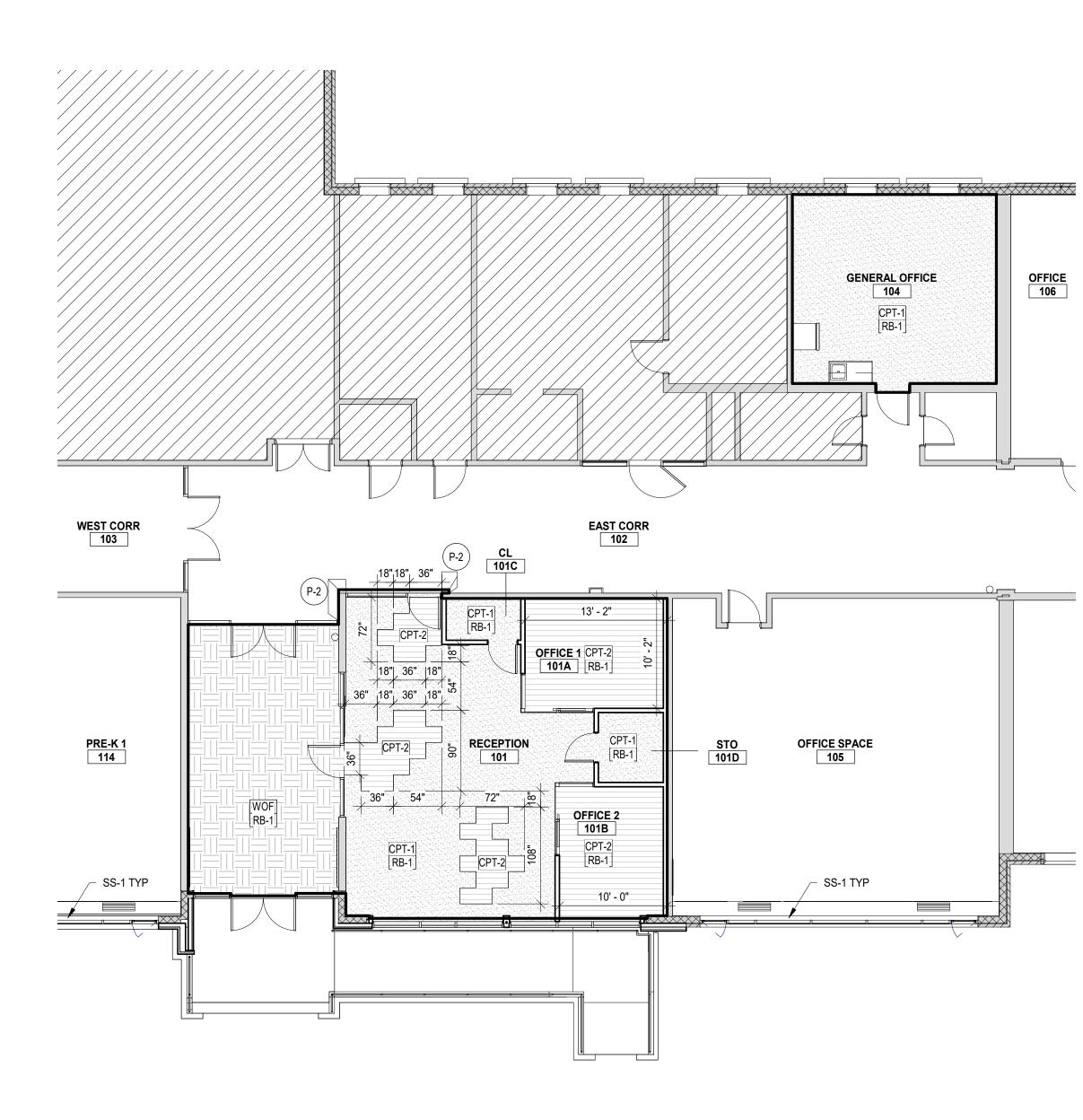
FINISH SYMBOL LEGEND

XX# - FLOOR FINISH XX# WALL BASE FINISH

XX# - FLOOR FINISH ONLY

(X#) - GENERAL WALL FINISH

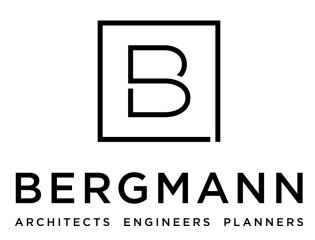
CPT-2



GENERAL NOTES

REMARKS

- 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. EDGES OF PAINT ADJOINING OTHER COLORS OR MATERIALS TO BE SHARP AND CLEAN WITHOUT OVERLAP.
- H. EXAMINE SURFACES TO RECEIVE PAINT CAREFULLY FOR DEFECTS. DO NOT PROCEED WITH WORK UNTIL DEFECTS ARE CORRECTED.
- I. 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.
- J. 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. K. PROVIDE SELF LEVELING TROWELABLE UNDERLAYMENT WHERE REQUIRED TO OBTAIN FINISH MANUFACTURER'S REQUIRED
- SUBFLOOR CONDITION. L. FOLLOW THE CARPET AND RUG INSTITUTE METHODS OF
- INSTALLATION. 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.



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1765 ADA AVENUE MUSKEGON, MI 49442

Date Revised	Description
1/24/2023	BID PACKAGE #1 - QAQC/OWNER REVIEW
1/31/2023	BID PACKAGE #1 - BIDS



Key Plan

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	16600.00

Sheet Name

FIRST FLOOR FINISH PLAN

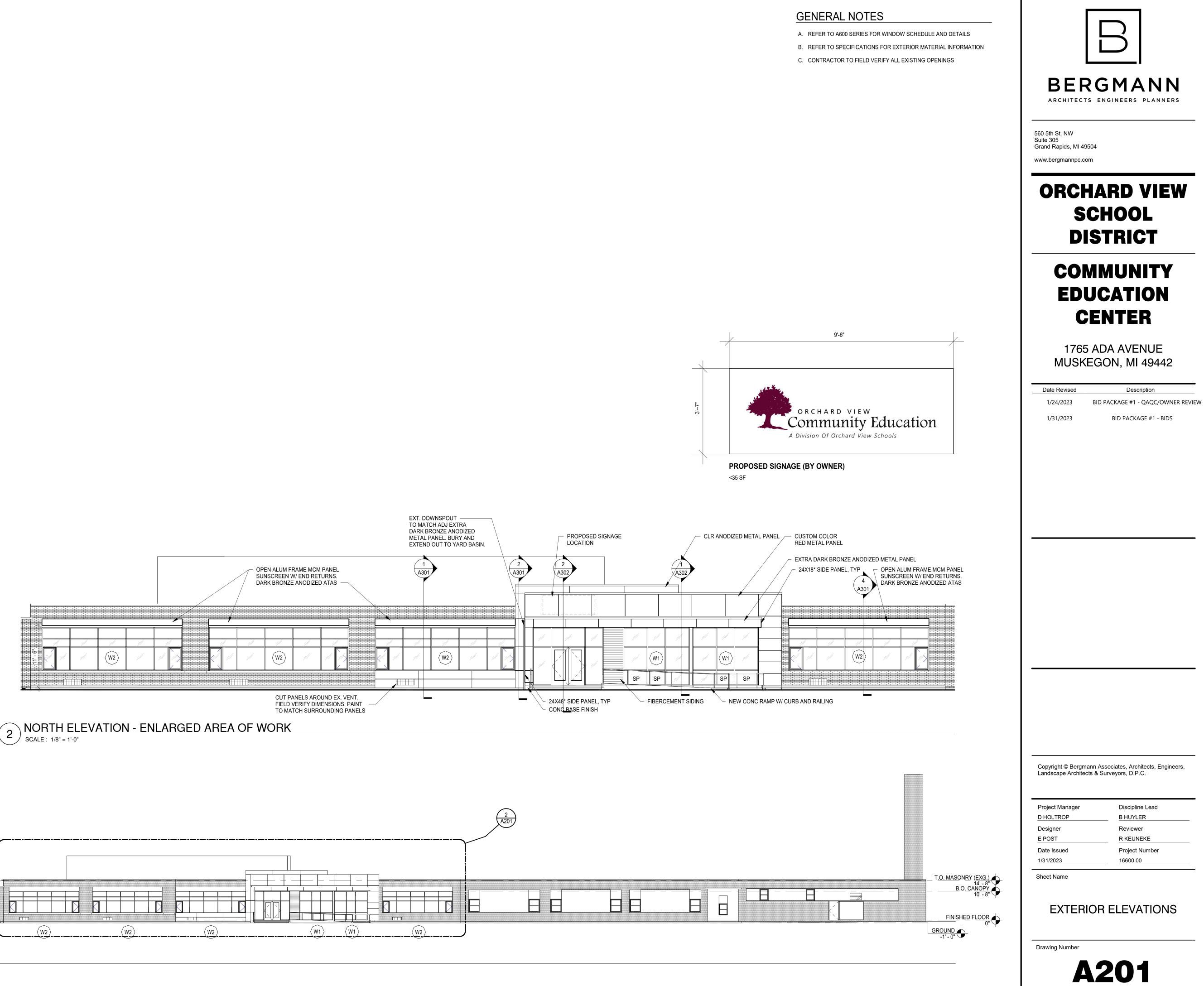
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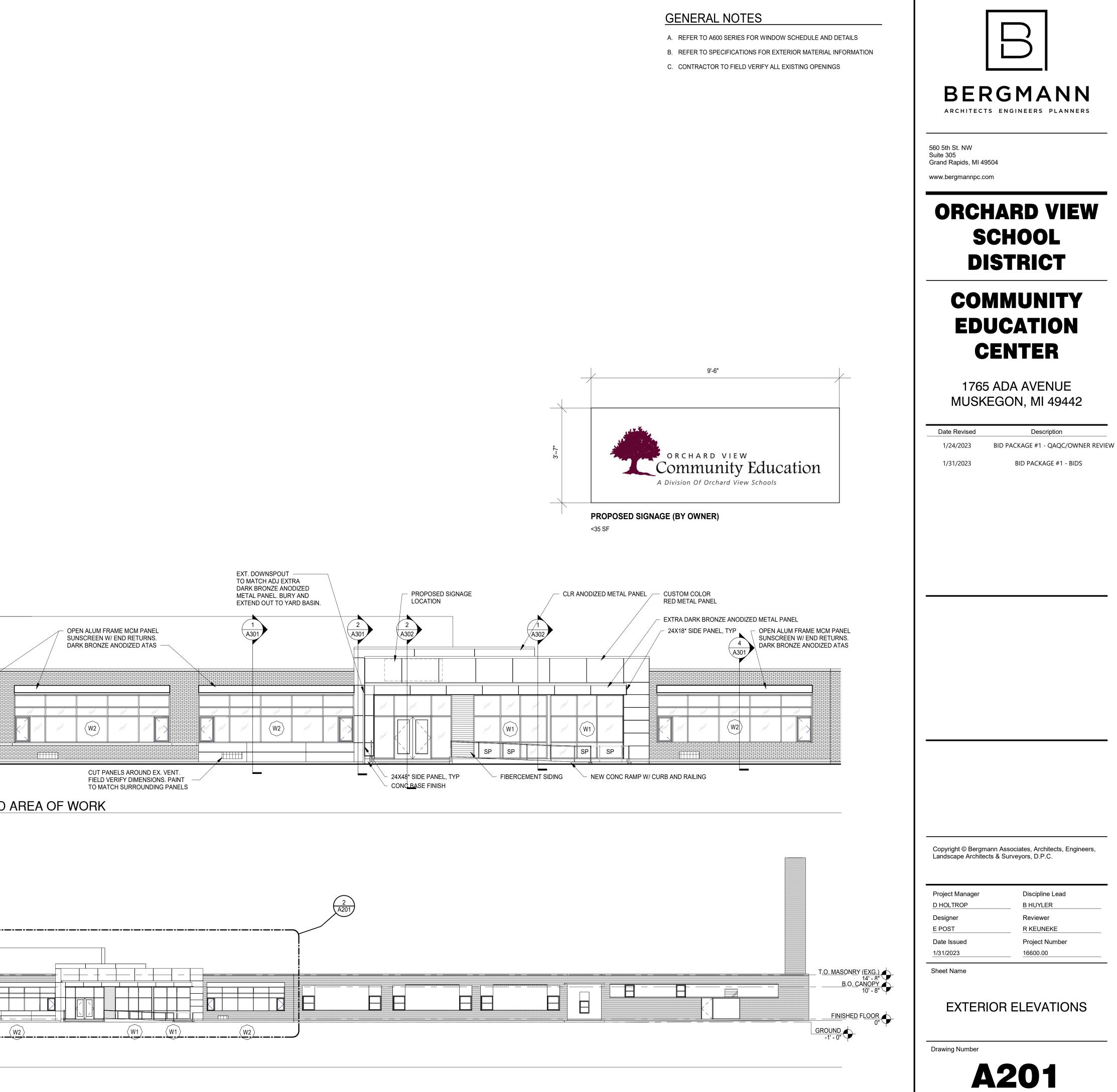
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<u>T.O. MASONRY (EXG.)</u> 14' - 8" <u>B.O. CANOPY</u> 10' - 8" - FINISHED FLOOR NORTH ELEVATION SCALE : 1/16" = 1'-0"

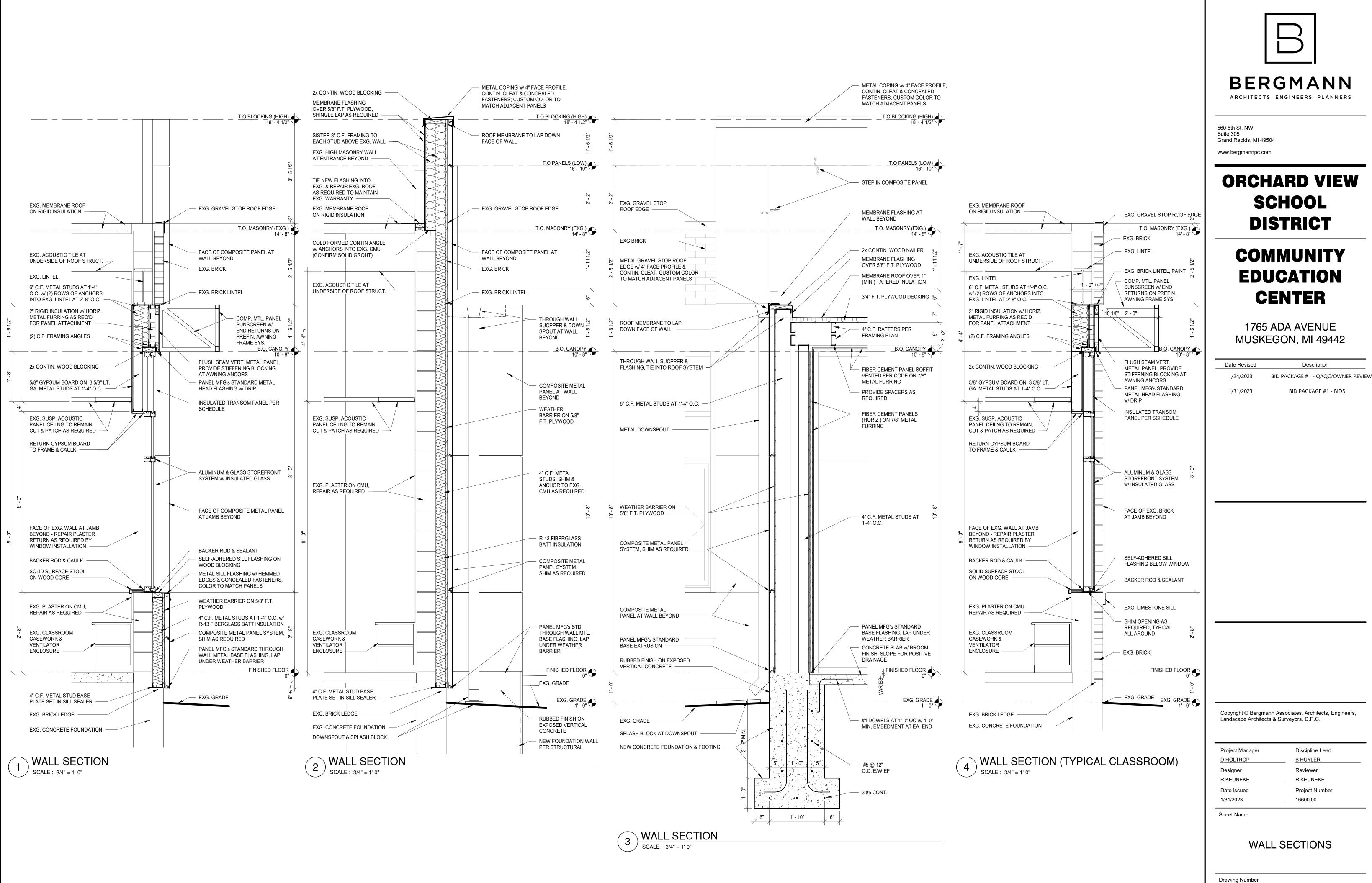
2 NORTH ELEVATION - ENLARGED AREA OF WORK SCALE : 1/8" = 1'-0"

9				
99. 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,				
	//	(W2)	///	



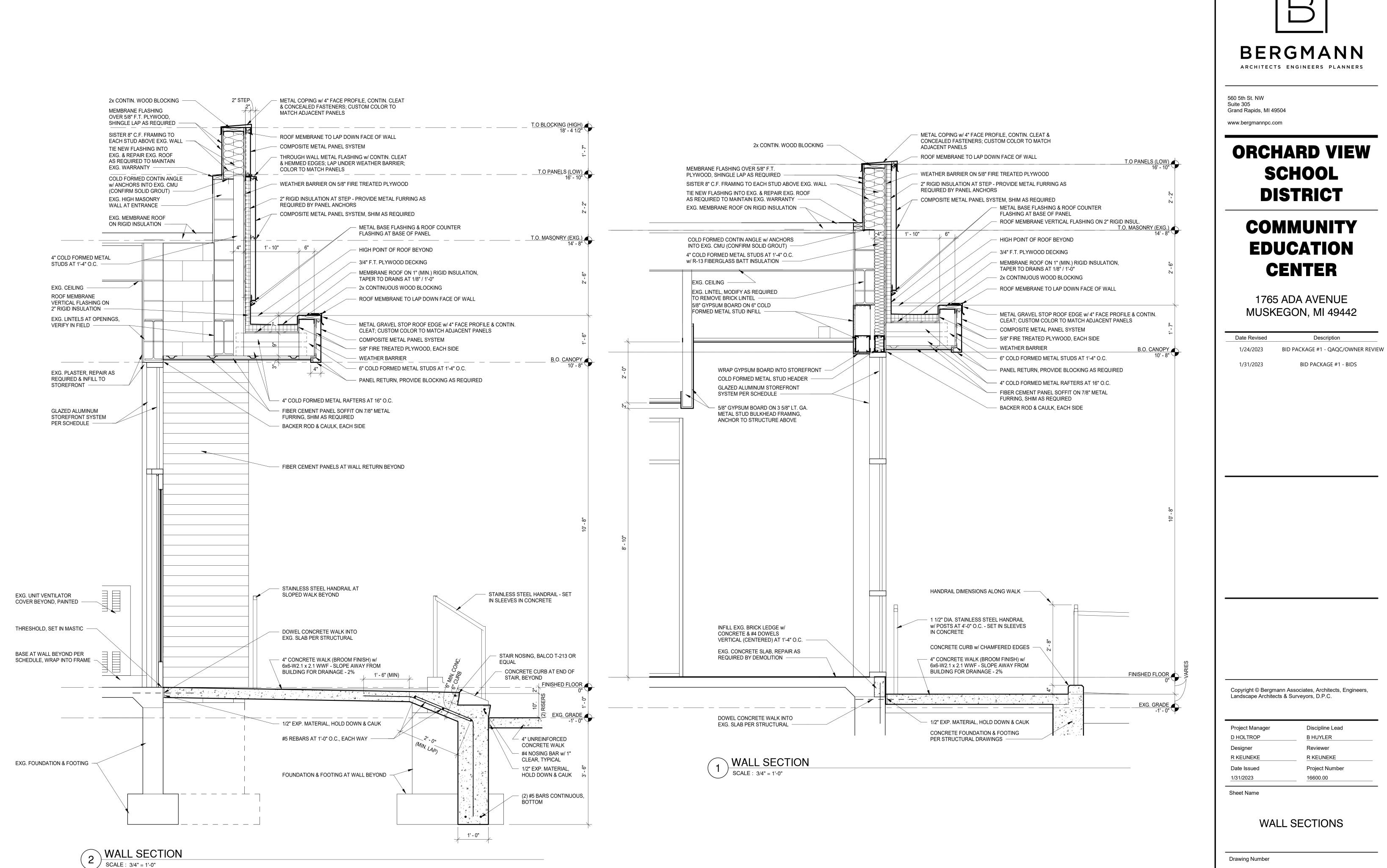




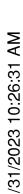


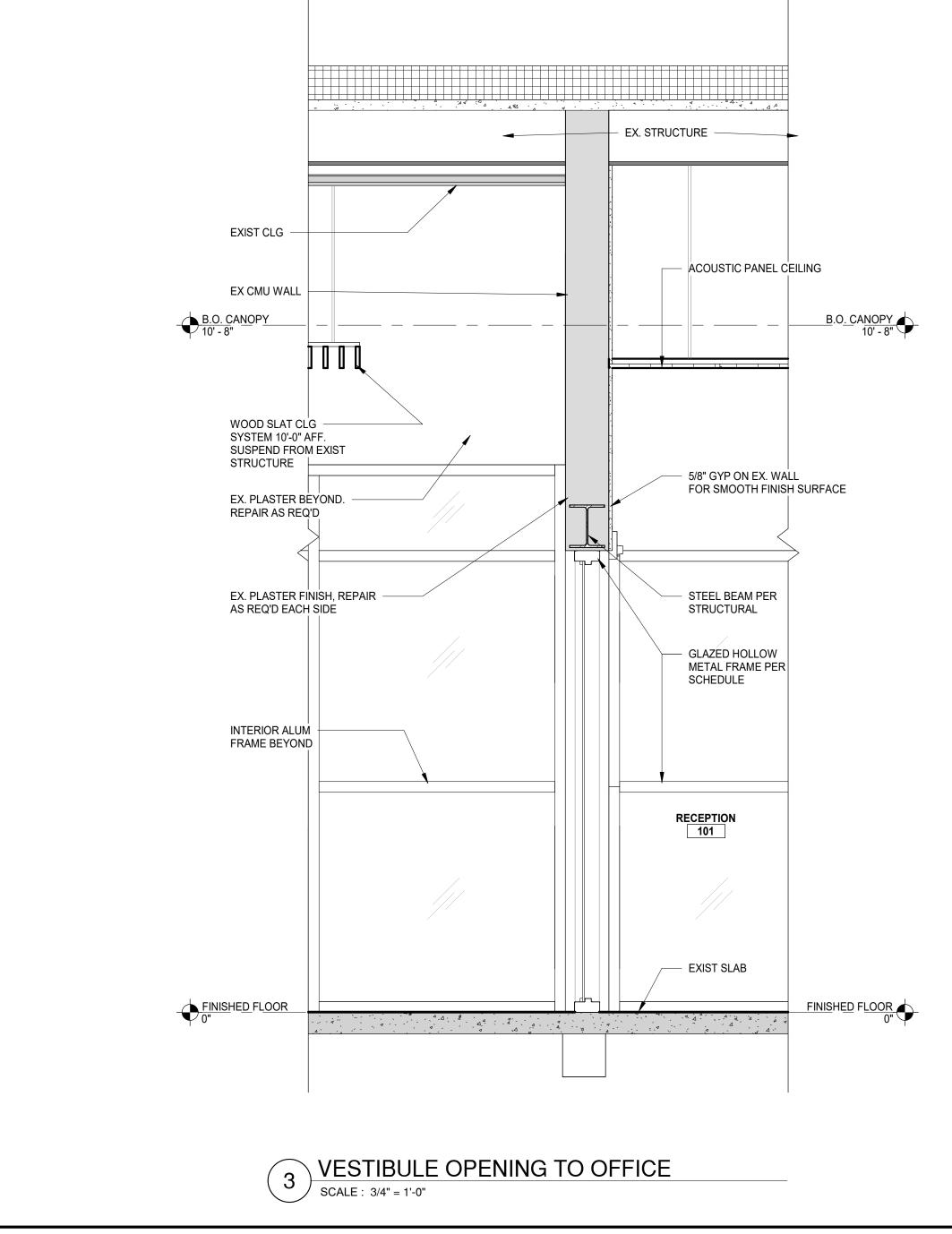






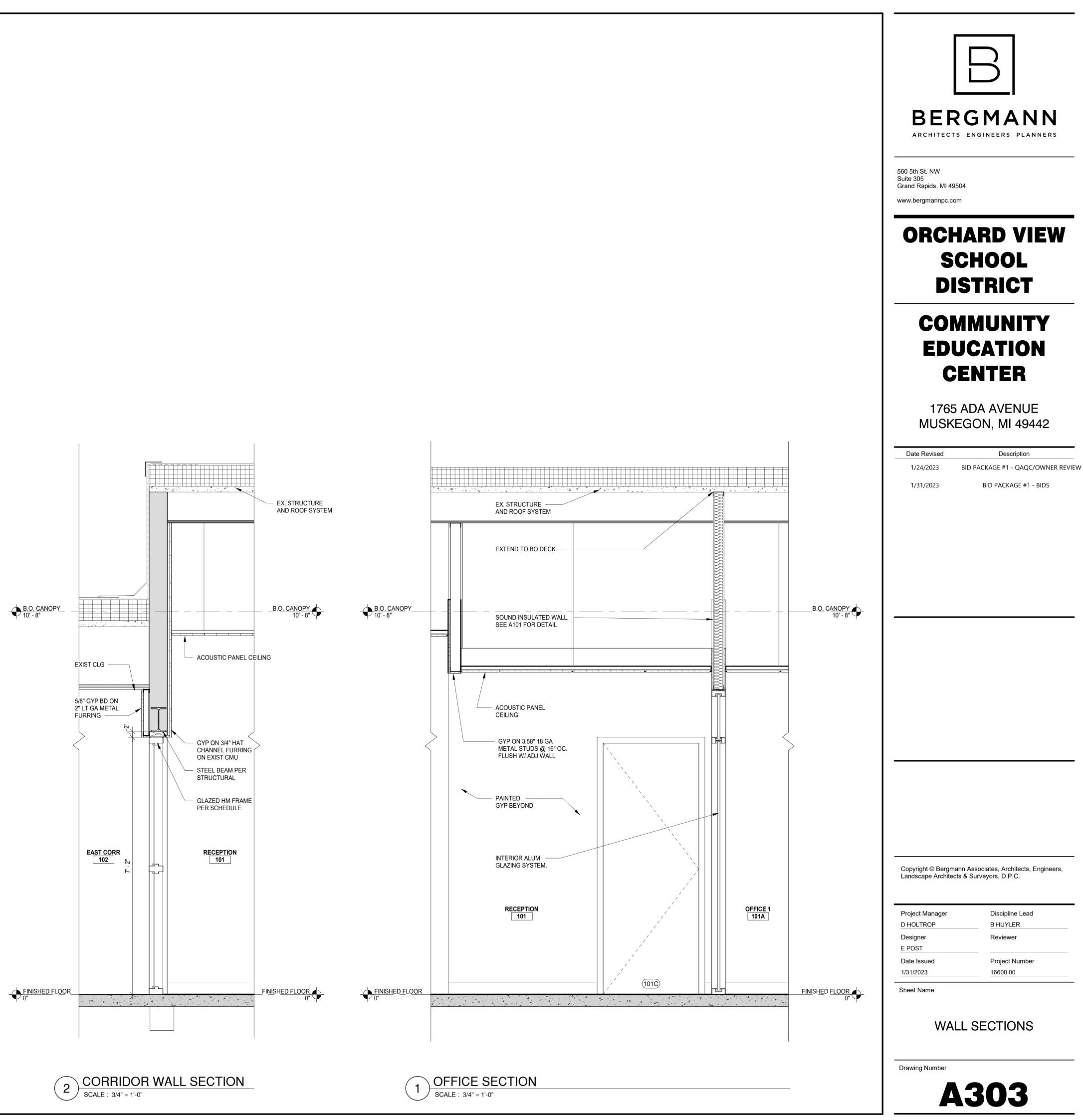
A302

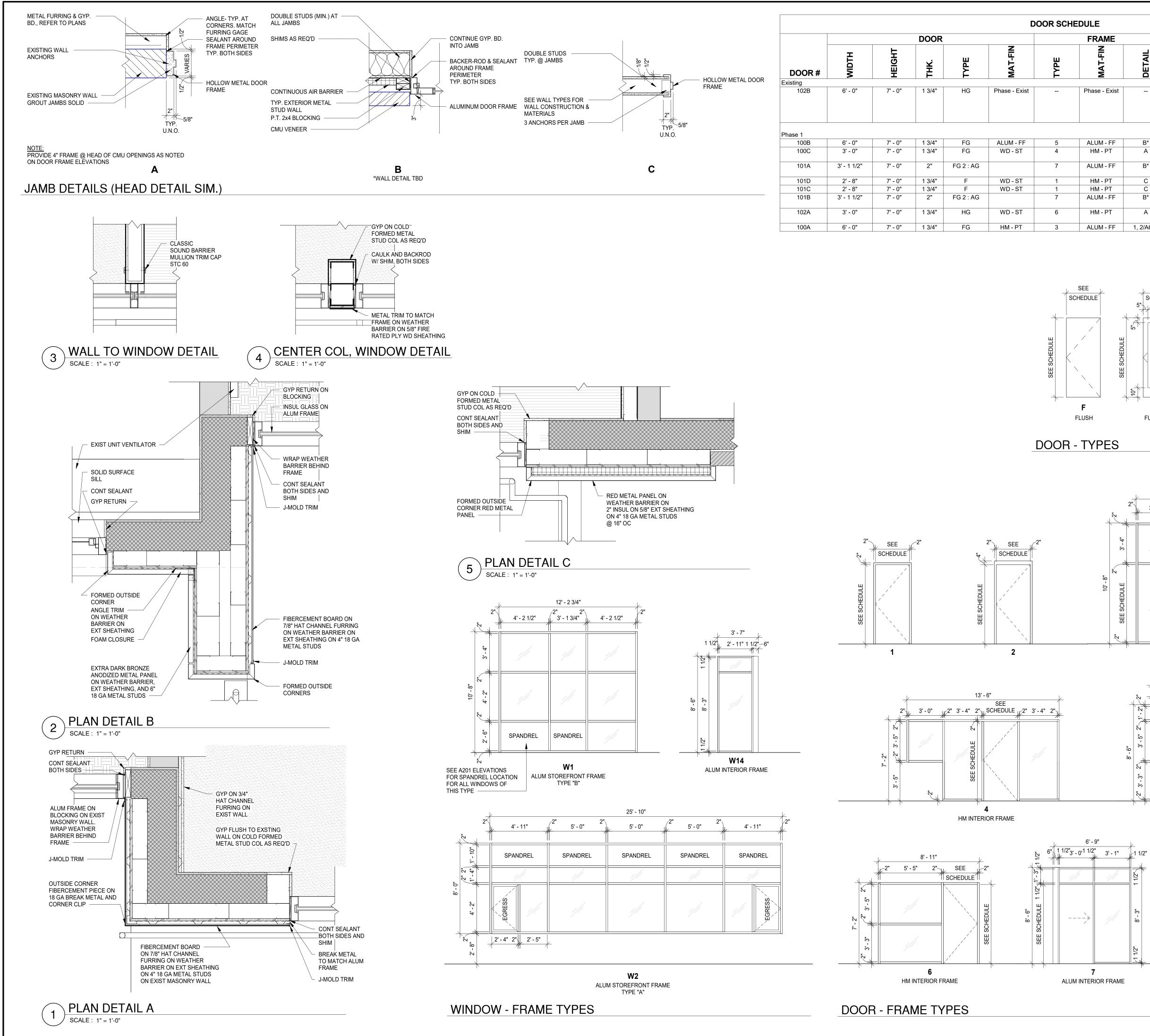




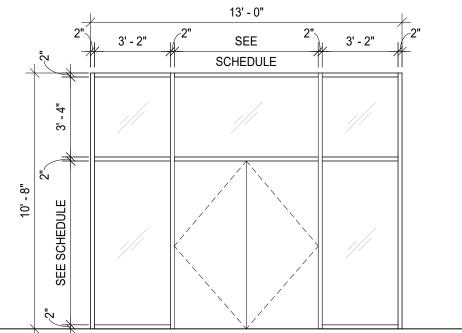


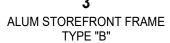


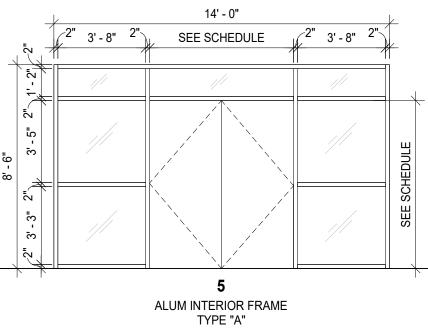




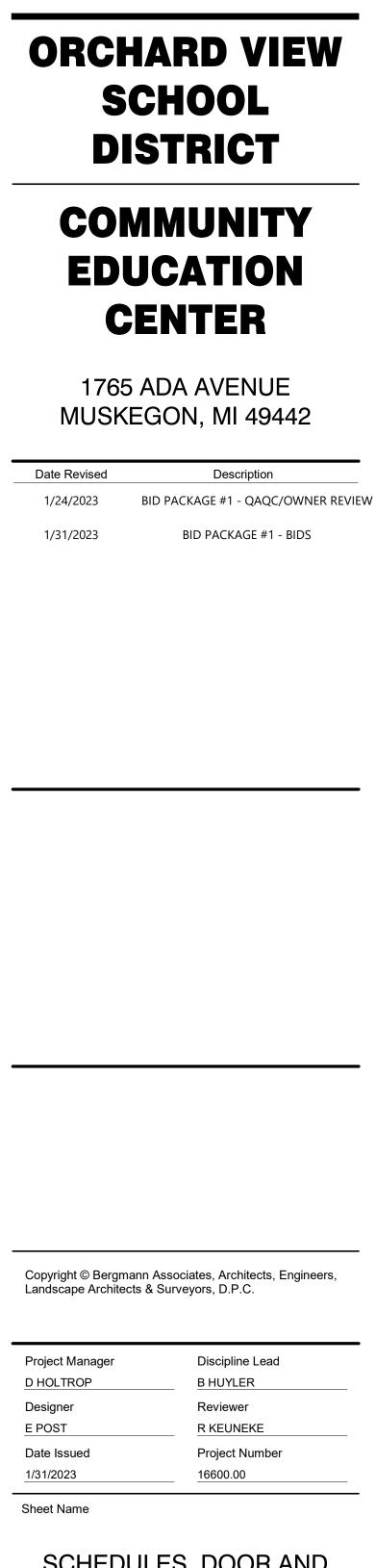
FRAME			GENERAL		
MAT-FIN	DETAIL	HDWR	RATING	REMARKS	DOOR #
Phase - Exist		08		EXISTING DOOR AND FRAME TO RECEIVE HARDWARE	102B
	D*	00			4000
ALUM - FF HM - PT	B* A	06 05	20 MIN	45 MIN SIDELIGHT	100B 100C
ALUM - FF	B*	09		PERIMETER SOUND SEALS	101A
HM - PT	С	02			101D
HM - PT	С	01			101C
ALUM - FF	B*	09		PERIMETER SOUND SEALS	101B
HM - PT	A	04	20 MIN	45 MIN SIDELIGHT	102A
ALUM - FF	1, 2/A601	07			100A
SEE EDULE	SEE SCHEDU	5"	SEE SCHEDULE	SEE SCHEDULE	SEE SCHEDULE 5
					Ì
F			FG 2 : AG	<u>+</u> +	HG







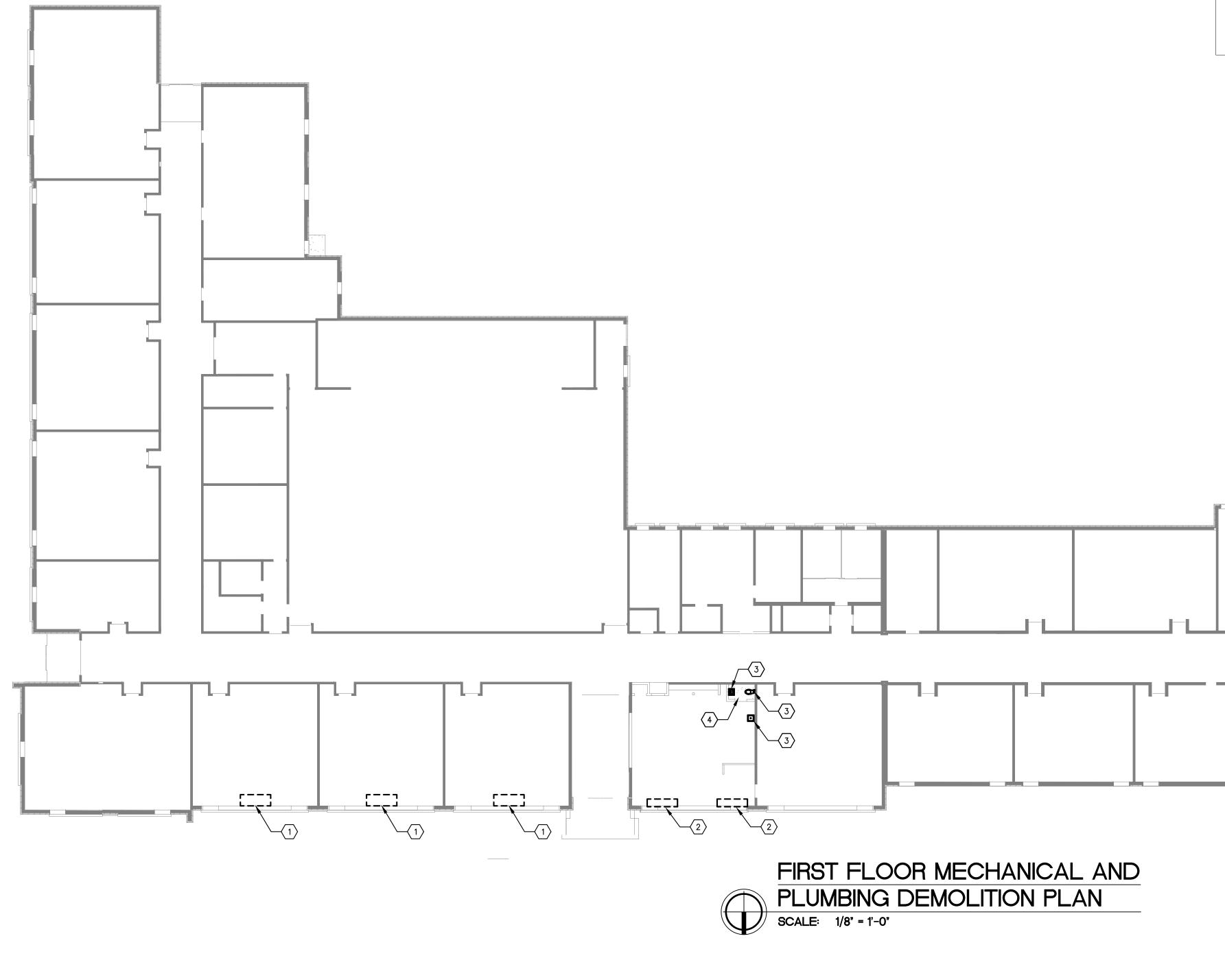




SCHEDULES, DOOR AND WINDOW DETAILS

A601





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



GENERAL HVAC AND PLUMBING DEMOLITION NOTES:

- 1. ALL EXISTING FIXTURES, PIPING, AND EQUIPMENT SHOWN AS DASHED SHALL BE REMOVED. PROTECT EXISTING WORK WHICH IS TO REMAIN IN PLACE FOR REUSE WITH TEMPORARY COVERS, SHORING, BRACING, AND SUPPORTS.
- 2. ALL EQUIPMENT TO BE REMOVED SHALL BE INSPECTED AND REVIEWED BY THE OWNER FOR POSSIBLE REUSE. EXCEPT WHERE INDICATED OTHERWISE, ALL MATERIALS AND EQUIPMENT REMOVED AND NOT REUSED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE OWNERS PROPERTY.
- 3. DO NOT INTERRUPT OR CONNECT INTO ANY SERVICE PIPING, ELECTRICAL, OR INSTRUMENTATION WORK WITHOUT PRIOR APPROVAL FROM THE OWNERS REPRESENTATIVE.
- 4. CONTRACTOR SHALL FIELD VERIFY LOCATION(S) OF EXISTING FIXTURES, PIPING, OR EQUIPMENT TO BE REMOVED.
- 5. COORDINATE WITH GENERAL CONTRACTOR FOR WALL, ROOF, AND FLOOR REPAIR WORK LEFT BY REMOVED ITEMS.

KEYED HVAC AND PLUMBING DEMOLITION NOTES:

- (1) REMOVE EXIST WALL HUNG HEAT PUMP CASSETTE FOR RELOCATION TO INTERIOR WALL. REROUTE REFRIGERATION AND CONDENSATE PIPING AS NEEDED.
- 2 REMOVE EXISTING UNIT VENTILATOR AND ALL ASSOCIATED COMPONENTS. CAP PIPING BELOW FLOOR.
- 3 REMOVE EXIST PLUMBING FIXTURE. DEMO ASSOCIATED COLD WATER, HOT WATER SANITARY AND SANITARY VENT DIDING AND SANITARY WATER, SANITARY, AND SANITARY VENT PIPING. CAP PIPING BELOW FLOOR, IN WALL, OR ABOVE CEILING.
- $\langle 4 \rangle$ REMOVE EXIST BATHROOM EXHAUST FAN AND ASSOCIATED DUCTWORK. CAP AT EXTERIOR WALL OR CEILING AS REQUIRED. FIELD VERIFY ACTUAL LOC.

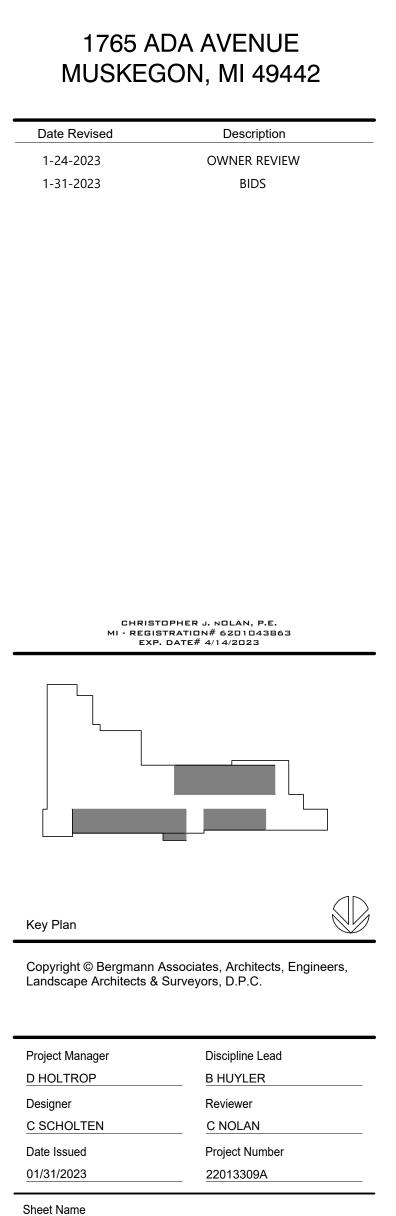


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FIRST FLOOR MECHANICAL & PLUMBING DEMOLITION PLAN

MD01

			HEA		ЛРС		DEN S	SING	G UN	IT S	SCHE	DUL	.E					DIF	FUS		REGIS	TER	& GF	RILI	E SC	HE
MARK	SERVICE	MODEL	NOM TONS	DX REFRIG	CLG MBH	SEER	нтс	HPSF	ELE	ECTRI	CAL	CON	TROLS		NNECT	REMARKS	MARK	SERVIO		MODE	VOLU EL CONT	JME FROL		NISH		REMAF
HPCU-1	HP-1	AJ020BXS3CH/AA	1.5	TYPE R-410A	21		2,200		VOLT 208-230V/1		CA MOCP 0.5 30	P TYPE NOTE 3	BY DIV 23	TYPE NFDS WP	DIV 26	4., 2.	CD-1	CEILING SUPPLY DIFF		TMS			STANDA	ARD WHITE		Round Ne
HPCU-3	HP-3	AC024BXADCH/AA	2	R-410A	24	19.5	27	8.5	208-230V/1			NOTE 3	DIV 23	NFDS WP	DIV 26	1., 2.	SG-1	SIDEWAL SUPPLY DIFF	L USER	300RL	YE	S		ARD WHITE	1, 3	3/4" SPACI
HPCU-4	HP-4 HP-5	AC024BXADCH/AA AC036BXADCH/AA	2	R-410A R-410A	24	19.5 19.2	27 40	8.5 8.5	208-230V/1	_		NOTE 3	DIV 23 DIV 23	NFDS WP	DIV 26	1., 2.	RG-1 RG-2	EGGCRA GRILLE RETURN		80 350RL	YE		BAKED	ARD WHITE D ENAMEL ARD WHITE	י, נ	1/2" x 1/2" UNLESS NO
HPCU-6	HP-6	AC018BXADCH/AA	1.5	R-410A	18	20.1	20	8.1	208-230V/1			NOTE 3	DIV 23	NFDS WP	DIV 26	1., 2.	1. BASED OF	GRILLE N TITUS.		350RL	TE	5	BAKED	DENAMEL	I, d	3/4" SPACI
HPCU-7 HPCU-8	HP-7 HP-8	AC018BXADCH/AA AC018BXADCH/AA	1.5 1.5	R-410A R-410A	18 18	20.1 20.1	20 20	8.1 8.1	208-230V/1			NOTE 3 NOTE 3	DIV 23 DIV 23	NFDS WP NFDS WP	DIV 26	1., 2. 1., 2.				ROC	OFTOF		CON	ודוחנ		RII
		NGLE ZONE AIR COOL		•													UNIT		10				COO	LING H	IEATING	
B. REFER 1	O INDOOR UNIT	NIT DERIVED FROM OU T SCHEDULE FOR CON ULTI-ZONE AIR COOLE	TROLS NOT	ES.													NO.	ERVES TON		MODEL		SP -	М	BH C	INPUT/ OUTPUT 81/65 MBH	EER 12
																		TRANE PRECEDEN								
		HE		PUMP	CAS	SSET	TES	SCH	FDU								RELIEF, S	TANDARD SERVICE	PANELS, 2							
					DX		AL NC	OMINAL EATING		TROL	DISCO	ONNECT			Г											
MARK	LOCATION	MODEL	TONS	CFM	REFR TYPE	CAPACI (MBTU	TY CA	APACITY (BTUH)	TYPE	BY	TYPE	BY	REMAF	KS	-				CEILING	VE	NTILA	CFM OA		CFM OA		
HP-1-1 HP-1-2	OFFICE	AR09BSFCMWKNCV AR09BSFCMWKNCV	3/4 3/4	353/335/300 353/335/300	R410A R410A	9		11 11	NOTE 3. NOTE 3.	DIV 23 DIV 23		DIV 26 DIV 26	4. 4.		/	ROOM NAME	ROOM # CLASSIFI	CATION AREA (SF)			# OCCUPANTS	PER OCCUPAN	Rp VENT CFM	PER SF AREA	Ra VENT FCM	BASE O
HP-3	CLASSROOM	AC024BNADCH/AA	2	629/537/466	R410A	24		27	NOTE 3.	DIV 23	and the second second second second	DIV 26	1.			VESTIBULE	CORR		9	0.0	0.0	0	0.0	0.06	20.7	20.7
HP-4 HP-5	CLASSROOM CLASSROOM	AC024BNADCH/AA AC036BNTDCH/AA	2	629/537/466 830/752/699	R410A R410A			27 40	NOTE 3. NOTE 3.	DIV 23		DIV 26	1. 1.			ADMIN AREA	101 OFF	ICE 880	9	5.0	4.4	5	22.0	0.06	52.8	74.8
HP-6	CLASSROOM	AC018BNADCH/AA	1.5	615/540/441	R410A			20	NOTE 3.	DIV 23		DIV 26	1.					1225			4.4					95.5
HP-7 HP-8	CLASSROOM CLASSROOM	AC018BNADCH/AA AC018BNADCH/AA	1.5 1.5	615/540/441 615/540/441	R410A R410A			20	NOTE 3. NOTE 3.	DIV 23		DIV 26 DIV 26	1.		É	1. ALL VENTILATION AIR	ROVIDED BY FRESH	AIR DAMPER ON RT	U-1; UNITS	OPERATE WIT	TH FAN ON CON	TINUSOUSLY	Y DURING OC	CUPIED PER	IODS	
INDOOR CONTRO	UNIT POWER D	EATING & COOLING SIN ERIVED FROM OUTDOO D WITH UNIT; PROVIDE EATING & COOLING MU	or unit; p Addition	ROVIDE LOCAL AL HARD WIRE	. DISCONN D THERMC	IECT AS REQU DSTAT W/ INT	UIRED BY N EGRATION	NEC N FOR FUTU	JRE CONNEC	CTION TO	O BMCS.				PROVIDE REQUIRE RESPONS	L REQUIREMENTS E EQUIPMENT AND CO ED FOR A COMPLETE F SIBLE FOR RECEIVING ED PART OF THEIR WO	MPONENTS INDICA FUNCTIONING SYST G, RIGGING AND INS	EM. CONTRACTO	WINGS, AI DR WILL B	ND AS AS E US TF	ENERAL DUCT STM A653 STAN SED FOR SUPP RANSVERSE AN	REQUIREM NDARD SPE PORT SHAL	ENTS CONT ECIFICATION L BE GALVA	TINUED N FOR STEE ANIZED. SE	EAL ALL DUC	CT SEAM
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OUND DUCT SIZE EILING DIFFUSER ROUND NECK) ETURN/EXHAUST GRILLE KHAUST/RETURN AIRFLOW RROW JPPLY AIRFLOW ARROW HERMOSTAT/SENSOR	ÖR UNIT; P E ADDITION JLTI-ZONE	ROVIDE LOCAL AL HARD WIRE DUCTLESS WAL ACCI AL APPF ARCI CLG CON CON CON CON CON CON CON CON CON CON	DISCONN D THERMO L MOUNT NOTE: CON CO CO CO CO CO CO CO CO CO CO CO CO CO	IECT AS REQU DSTAT W/ INT ED CASSETTE ED CASSETTE CHITECTORALLY PROXIMATE CHITECTURAL ILING PROXIMATE CHITECTURAL ILING PROXIMATE ONNECTION PROXIMATE ONNECTION PROXIMATE ONNECTION ONDENSATE PU Y BULB WN AWING CH TERING AIR T ECTRICAL CO UIPMENT TERNAL STATI ISTING SED DISCONN VISHED FLOOI EXIBLE OOR ET PER MINUT LVANIZED	UIRED BY N EGRATION E UNIT, PAI /AC NDENSING LINED UMP EMPERATU NTRACTOR IC PRESSUI NECT SWITC R TE	NEC N FOR FUTU IRED WITH	BREV BREV HVAC HTGS HVAC HTGS HTGS INSU LAT MC MEC MFG MMS NFDS OA RA RM RTU SA SHT STOF TYP W/ W/	TION TO CONDEN	TE: SPIPING CONT	TILATING AN ING IEATING SUF IEATING RET TEMPERATU CONTRACTO RER OR STARTEF ISCONNECT ISCONNECT IT	PPLY TURN RE DR SWITCH		PROVIDE REQUIRE RESPONS PROVIDE DEFINITIO FOR INST CONNECT COMPLET AND ACC MECHANI LAMINATI OPERATIO OPERATIO PROVIDE OWNER/T SEPARAT AT THE F END DATI PROVIDE INCLUDIN ALL EQUI REPORTS MAINTEN ROUTINE SECTION MAINTEN SEQUENO TESTING EQUIPME ACCORD, STANDAF PROPER INDEPENI CERTIFIC TO OWNE FLOWS A GENERAL DUCT TUF RUNNERS CONSTRU PROVIDE BARS PEF MOUNTIN AND CON DUCT INS INDOOR: I PROVIDE BARS PEF	EQUIPMENT AND COU ED FOR A COMPLETE F SIBLE FOR RECEIVING D PART OF THEIR WO ONS: <u>FURNISH</u> MEANS FALLATION. <u>INSTALL</u> M TIONS FOR SERVICE O TE AND READY FOR IN CEPT DELIVERY OF EQ IICAL EQUIPMENT IDE E LABEL FOR EACH M IONAL DEVICE. LETTE IONS AND MAINTENAN E A MINIMUM OF TWO TENANT. MANUALS SH TED WITH A CLEAR IN FRONT OF THE MANUA E) AND CONTACTS W E A NARRATIVE OF HO NG RECOMMENDED S IPMENT, SIZE AND OP S. PROVIDE MANUFAC IANCE FOR ALL THE E MAINTENANCE SHAL I LISTING SYSTEM OP IANCE, CALIBRATION, CE DESCRIPTIONS. AND BALANCING: TE ENT TO ASSURE PROF DANCE WITH THE MOS RDS. ELIMINATE OBJE FUNCTION OF CONTF IDENT CERTIFIED TES CATION. SUBMIT COMI ER'S REPRESENTATIVA ND WATER FLOWS IN L DUCT REQUIREMENT IS, CONSTRUCTED IN A UCTION STANDARDS" E TURNING VANES: PROVI S, CONSTRUCTED IN A UCTION STANDARDS" E TURNING VANES COI RPENDICULAR TO BLA SULATION:	MPONENTS INDICA FUNCTIONING SYST S, RIGGING AND INS DRK CATEGORY. S TO SUPPLY AND D MEANS TO PLACE IN OR USE. PROVIDE M NTENDED USE. REG QUIPMENT AT JOBSI NTIFICATION: PROV (AJOR ITEM OF MEG RS TO BE A MINIMU NCE MANUALS (O&M O&M O&M O&M MANUALS (O&M O&M MANUALS (O&M O&M O&M MANUALS (O&M O&M O&M MANUALS (O&M O&M O&M MANUALS (O&M O&M O&M MANUALS (O&M O&M O&M MANUALS (O&M O&M O&M O&M O&M O&M MANUALS (O O&M O&M MANUALS (O O&M O&M O&M O&M MANUALS (O O&M O&M O&M O&M O&M O&M O&M O&M O&M O&	TED ON THE DRA EM. CONTRACTO TALLING ALL EQU ELIVER TO PROJ POSITION AND M TE. TOE ENGRAVED F CHANICAL EQUIPM M OF 1/2" HIGH. TE. TOE ENGRAVED F CHANICAL EQUIPM M OF 1/2" HIGH. TOE ENGRAVED F CHANICAL EQUIPM TO TO DE ALL EQUIPM TO TO DE A WAF OF WARRANTY (S RS FOR WARRAN S FOR WARRAN S SHALL INCLUD PROVIDE ALL BAL E FOR OPERATION FROJECT. ALL P NTIFIED. PROVIDE TROL INSTRUCTION S CHEMATICS A L MECHANICAL S OPERATION. PER DR AABC, AND AS AND VIBRATION, CONTRACTOR, WIT FIED TEST AND B STEMS TO WITH TRAWINGS. IRNING VANES AN I SMACNA "HVAC ATERIAL OF DUCT RAWINGS. IRNING VANES AN I SMACNA "HVAC ATERIAL OF DUCT RAWINGS. IRNING VANES AN I SMACNA "HVAC ATERIAL OF DUCT RAWINGS. IED SUPPLY & O/ ED SUPPLY & O/	WINGS, AI DR WILL B JIPMENT ECT SITE, MAKE SH AND IN COORDIN PLASTIC MENT & EA DN OF PRO ERS TO TI SECTION RANTY LI START DA TY WORK PERATE E SUBMIT ANCING DNS AND ERIODIC A E SUBMIT ANCING DNS AND ERIODIC A E SUBMIT ANCING DNS AND ERIODIC A E A CONTF ONS, ND CONTF STREMS A FORM TES SHRAE AND ASSU ALL BE AN H NEBB O ALANCE F IN 5% OF A SYSTEM. UPPORTE JITABLE F ACING, SU AIRFOIL T A DUCTWO TION CON	ND AS E ND AS E READY READY ISTALL, ATE ACH ACH ACH ACH CH CH CH CH CH CH CH CH CH	ENERAL DUCT STM A653 STAN SED FOR SUPP RANSVERSE AN BOWS. ECTANGULAR Y HANNEL FRAMI XLE, MOLDED S HAFT. LINKAGE (TEND BEYONI EVER. MAXIMUI OUND VOLUME JN OUTS TO CI ALVANIZED STI OLDED SYNTH EGULATOR SH OVERING. WHE OUPLING AND I STALLATION, A LEXIBLE DUCT OATED FIBERG IBRATING EQUI STALLATION, A LEXIBLE DUCT OATED FIBERG IBRATING EQUI PING REQUIRE ATURAL GAS P ATURAL GAS P STM A53, WITH PS 2" AND SMA ND LARGER. P ITH NO LOSS C AS PIPE SCREY HUTOFF/STOP ALVE PPLIANCE GAS PPLIANCE PRE PRING DIAPHR RESSURE TURI ORIENTATION FGR INSTRUCT ROVIDE ADJUS IPING LESS TH ODS: 1/4" THRE UPPORTS ON F TRUT WITH SLI	REQUIREM NDARD SPE PORT SHALL ND LONGIT VOLUME D/ E, 16 GAUG SYNTHETIC S SHALL B D FRAME A M BLADE W E DAMPERS EILING SUF EEL FRAME ETIC BEAR ALL BE POS EEL FRAME ETIC BEAR ALL BE POS EEL FRAME CONNECTO GLASS FABF IPMENT. MENTS IPING: ALL SCREWED LLER, AND PRESSURE DF PRESSURE DF PRESSURE DF PRESSURE DF PRESSURE DF PRESSURE SCREWED LLER, AND PRESSURE SCREWED LLER, AND PRESSURE SCREWED CONNECTO SSURE RE AGM TYPE NDOWN RE I THAT PRE TIONS. STABLE CLE AGD F TA SHEET OF PIPE TO UT ONNECTIO	ENTS CONT CIFICATION L BE GALVA UDINAL, AIF AMPERS: PF GE GALVANI BEARINGS E CONCEAL ND DUCT TO IDTH SHALL PPLY AIR DIF E AND BLAD INGS, WITH STIONED W ONING REG N ROD WITH ED. ORS: PROVI ROD WITH ED. ORS: PROVI ROD WITH ED. ORS: PROVI ROD WITH ED. ORS: PROVI WP RATED 1 GULATORS: ANSI Z21.1 QUIREMEN VP RATED 1 GULATORS: ANSI Z21.1 QUIREMEN VP RATED 1 SAND UNIC WP RATED 1 GULATORS: ANSI Z21.1 QUIREMEN VP RATED 1 SAND UNIC WP RATED 1 GULATORS: ANSI Z21.1 QUIREMEN VP RATED 1 SAND UNIC WP RATED 1 SAND UNIC	TINUED N FOR STEE NIZED. SE R TIGHT. PF ROVIDE MIN ZED STEEL S, WITH 3/8" LED IN THE O A LOCKIN L NOT EXCO ROUND MA FFUSERS. DES, MINIMU LOCKING F ILOCKING F ILOCKIN	AL ALL DUC ROVIDE TUP NIMUM 16 G BLADES, N 'SQUARE P FRAME. OF NG QUADRA EED 6". ANUAL BALA PROVIDE M UM 3/8" SQU POSITION F IMETAL BRA S NOT ACCE OR FOR CE BELED 30 O RS AT DUCT BELED 30 O RS AT DUCT GR FOR CE BELED 30 O RS AT DUCT SYSTEMS TO INTO SERV RE PLACING BRONZE OR RONZE OR RONZE OR RONZE OR RONZE OR STEL SION INTO Y SOR INDIVID HANGERS V SIZES UP T BASE STYL NE MATERIA CUSHIONED	CT SEAM RNING VA GAUGE GA MINIMUM PLATED S PERATING ANT WITH ANCING I MINIMUM JARE STE REGULAT ACKET BI ESSIBLE, EILING OF DUNCE NE CONNE SCH 40 S EIRON FIT TONNE SCH 40 S EIRON FIT CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONNE CONN

- P.C. SHALL PAINT ALL EXPOSED GAS PIPING ON ROOF SAFETY YELLOW

> BRANCH OFF TOP OF GAS PIPE MAIN

- GAS SHUT-OFF COCK

♦♦

6" LONG DIRT LEG FULL SIZE -

OF BRANCH SIZE.

UNIT GAS CONNECTION DETAIL

R00F —

NOT TO SCALE

	DIFFUS	SER, RE	GISTE	R & GRILLE S	SCHE
MARK	SERVICE	MODEL	VOLUME CONTROL DAMPER	FINISH	REMA
CD-1	CEILING SUPPLY DIFFUSER	TMS	NO	STANDARD WHITE	1, ROUND I UNLESS
SG-1	SIDEWALL SUPPLY DIFFUSER	300RL	YES	STANDARD WHITE	1, 3/4" SPA
RG-1	EGGCRATE GRILLE	80	NO	STANDARD WHITE BAKED ENAMEL	1, 1/2" x 1/2 1, UNLESS
RG-2	RETURN GRILLE	350RL	YES	STANDARD WHITE BAKED ENAMEL	1, 3/4" SPA
1. BASED ON	TITUS.				

	ROOFTOP AIR CONDITIONER UNIT SCHEDULE															
UNIT NO.	SERVES	TONS	MODEL	CFM	SP	ΗP	COOLING OUTPUT MBH	HEATING INPUT/ OUTPUT	EER	POWER	KW	MCA	rec. Fuse	MIN. OA	OUTSIDE AIR DAMPER SETTING	REMARKS
RTU-1	ADMIN/VEST	3	YSC036E3R0MA**B000B6	1200	0.7"	0.75	37.0	81/65 MBH	12	208-230V/3PH	3	20	30	180	15%	1., 2., 600 LBS
1 BASE) ON TRANE PRE		OWNFLOW UNIT WITH SING		PRESSOE	AND HO	T GAS REHEAT	2-STAGE MEDIL	IM GAS I	HEAT STANDARD) FFFICII	NCY 0-5	50% MOTO	RIZED F	RECH AIR DAMPE	R W/ BAROMETRIC

GAS REHEAT, 2-STAGE MEDIUM GAS HEAT, STANDARD EFFICIENCE, 0-30% MOTORIZED FRECH AIR DAMPER W/ BAROMETH , UNIT MOUNTED CIRCUIT BREAKER, 7-DAY PROGRAMMABLE T-STAT, & POWERED CONVENIENCE OUTLET.

TION:

DUCT SEALANT: PROVIDE WATER BASED SYNTHETIC LATEX EMULSION PERMANENTLY FLEXIBLE HIGH VELOCITY DUCT SEALANT, DUCTMATE 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 G60 ZINC COATING. SHEET STEEL SHALL COMPLY WITH

SERVICE AND ISOLATION VALVES, FORGED BRASS BODY AND CAR GASKETS, MALE SAE FLARE X FEMALE SAE FLARE, FULL PORT UN 700 PSIG RATED, EQUIPPED WITH ACCESS FITTING FOR REFRIGER CAPABLE OFF VALVE OPERATION WITHOUT REMOVAL OF SEAL CA

PROVIDE AP ARMAFLEX BLACK LAPSEAL PRE-FORMED PIPE FLEXI CELL INSULATION FOR ALL INTERIOR AND EXTERIOR REFRIGERAT

EXTERIOR PIPE INSULATION SHALL BE PROTECTED WITH EITHER: 1. VENTURE-CALD JACKETING

2. BRUSH APPLIED ARMAFLEX WB WHITE UV RESISTANT COATI

EDULE

ARKS

) NECK, 24x24 LAY-IN S NOTED OTHERWISE
ACING, 35º FIXED, SURF
/2" x 1/2", 24"x24" LAY-IN S NOTED OTHERWISE
ACING, 45º FIXED, SURF

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

> ABILITY ENGINEERING ENGINEERING - DESIGN - CONSULTING

RY: RTU-1													
BASE OA CFM	Ez	TOTAL REQ'D OA CFM	DESIGN SA CFM	PERCENT OA AT UNIT	DESIGN OA CFM	MEETS TABLE 403.3 REQUIREMENT							
20.7	1.0	20.7	350	9%	32	YES							
74.8	1.0	74.8	850	9%	75	YES							
95.5		95.5	1200	9%	106	YES							
	BASE OA CFM 20.7 74.8	BASE OA CFM Ez 20.7 1.0 74.8 1.0	BASE OA CFM TOTAL REQ'D OA CFM 20.7 1.0 20.7 74.8 1.0 74.8	BASE OA CFM Ez TOTAL REQ'D OA CFM DESIGN SA CFM 20.7 1.0 20.7 350 74.8 1.0 74.8 850	BASE OA CFM Ez TOTAL REQ'D OA CFM DESIGN SA CFM PERCENT OA AT UNIT 20.7 1.0 20.7 350 9% 74.8 1.0 74.8 850 9%	BASE OA CFMEzTOTAL REQ'D OA CFMDESIGN SA CFMPERCENT OA AT UNITDESIGN OA CFM20.71.020.73509%3274.81.074.88509%75							

MECH CODE COMPLIANCE NOTES:
1. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF SYSTEM IN COMPLIANCE WITH 2015 MICHIGAN MECHANICAL CODE (MMC), ASHRAE 90.1-2013, AND ALL OTHER APPLICABLE STATE AND LOCAL CODES.
2. FOR CLASSROOMS AND OFFICES WITH NEW DUCTLESS SPLIT HEAT PUMP SYSTEM, ALL VENTILATION TO BE PROVIDED BY MECHANICAL MEANS USING EXISTING CLASSROOM UNIT VENTILATOR. MC TO VERIFY OPERATION OF EXISTING SYSTEMS IN AREAS OF NEW WORK.
 VENTILATION FOR ADMIN AND VESTIBULE SPACE PROVIDED BY ROOFTOP UNIT WITH MOTORIZED FRESH AIR DAMPER, RATES PER 2015 MICHIGAN MECHANICAL CODE (MMC), REFER VENTILATION SCHEDULE ON THIS SHEET.
 SYSTEMS AS DESIGNED AND EQUIPMENT AS SPECIFIED MEET OR EXCEED THE MINIMUM PRESCRIPTIVE REQUIREMETNS OF THE MICHIGAN ENERGY CODE ASHRAE 90.1-2013.
 NO NEW HVAC SYSTEM ABOVE 2000 CFM; NO DUCT SMOKE DETECTORS WILL BE PROVIDED FOR HVAC SYSTEMS WITH CAPACITIES LESS THAN 2000 CFM PER 2015 MMC 606.2.1.
 ALL NEW NATURAL GAS PIPING HAS BEEN SIZED BASED ON THE BRANCH LENGTH METHOD OF 2018 INTERNATIONAL FUEL GAS CODE (IFGC); CONTRACTOR SHALL INSTALL GAS PIPING SYSTEM SHOWN IN ACCORDANCE WITH 2015 IFGC. (SEE PLANS)
GENERAL NOTES:
1. CONTRACTOR SHALL INCLUDE ALL APPLICABLE SALES AND USE TAXES FOR MATERIAL AND EQUIPMENT PROVIDED AS REQUIRED.
2. CONTRACTOR RESPONSIBLE FOR CREATING OPENINGS THRU ANY ROOFS, CEILINGS AND WALLS FOR THEIR DUCT AND PIPING SYSTEMS; OVERSIZE OPENING AS REQUIRED TO ACCOUNT FOR THERMAL EXPANSION.
UTILIZE PIPE ROOF JACK FOR ROOF PIPE PENETRATIONS THROUGH ROOF AND SEAL WEATHERTIGHT.
3. ALL DUCTWORK IS TO BE INSTALLED PER LATEST EDITION OF SMACNA "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE".
 DUCTWORK DIMENSIONS SHOWN ARE CLEAR INSIDE DIMENSIONS.
 ROUTE ALL DUCTWORK AND PIPE AT RIGHT ANGLES TO WALLS, INSTALL HORIZONTAL PIPE DEAD LEVEL UNLESS IDENTIFIED OTHERWISE.
 CONTRACTOR SHALL FURNISH & INSTALL HANGERS AND BUILDING ATTACHMENTS AS REQUIRED FOR ALL DUCTWORK AND PIPING SYSTEMS.
7. ALL DUCT, PIPE AND CONDUIT PENETRATIONS OF THE OFFICE AREA WALLS AND CEILINGS SHALL BE SEALED AIRTIGHT WITH ZERO LIGHT TRESPASS AROUND OPENING.
8. PROVIDE 1 YEAR WARRANTY ON WORKMANSHIP.



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

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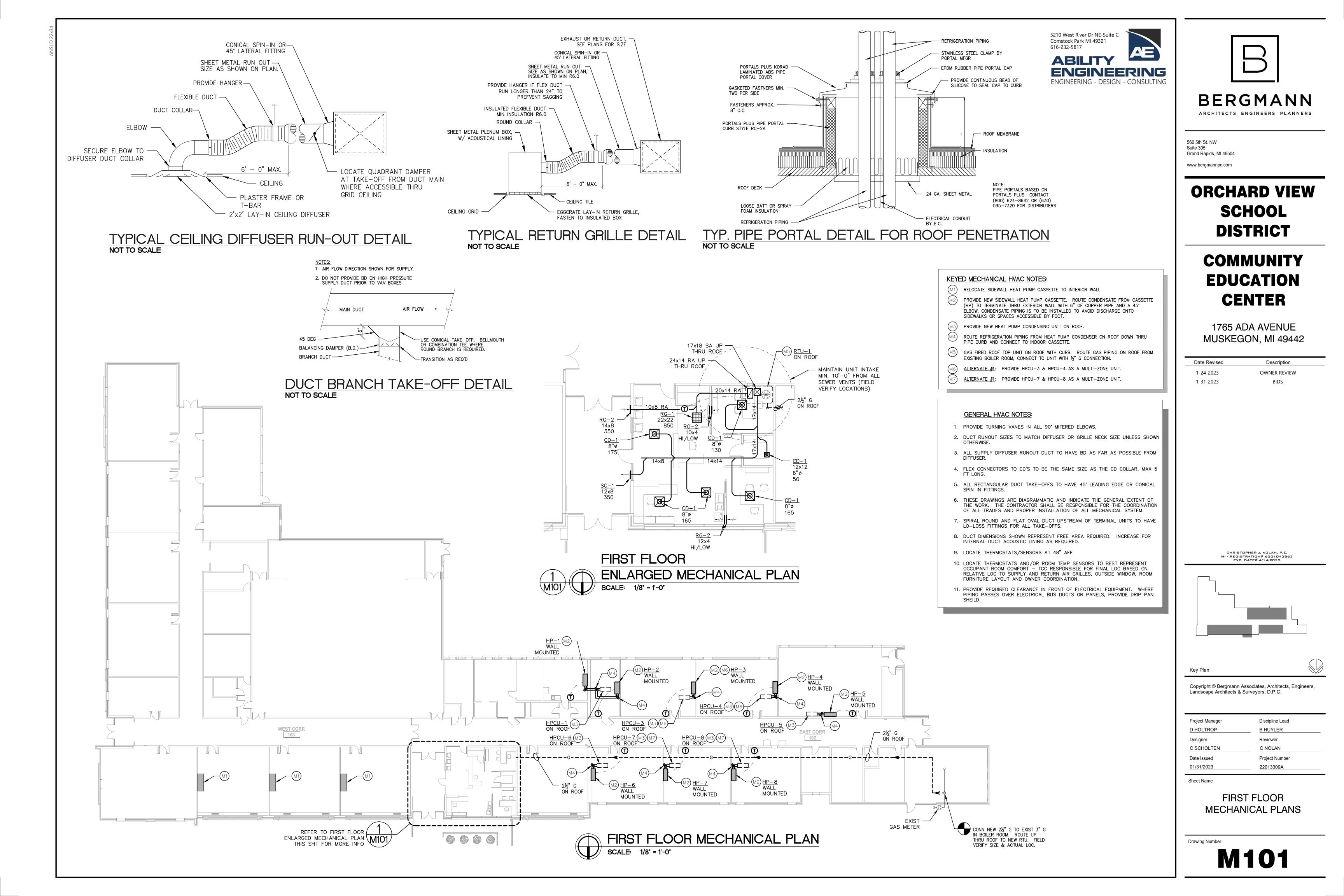
Project Manager D HOLTROP Designer C SCHOLTEN Date Issued 01/31/2023

Discipline Lead **B HUYLER** Reviewer C NOLAN Project Number 22013309A

Sheet Name

GENERAL MECHANICAL INFORMATION

MOO1



2x34									ABBRE\	/IATIONS							REFERENCE SYMBC
ISI D 2:	n	INCHES	BAS	BUILDING AUTOMATION SYSTEM	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	TTC	TELEPHONE TERMINAL CABINET	
AN	# &	NUMBER AND	BATT BD	BATTERY BOARD	DS	SAFETY DISCONNECT SWITCH	GAL GALV	GALLON GALVANIZED	L		NIC	DISCONNECT SWITCH NOT IN CONTRACT	RECPT REQD	RECEPTACLE REQUIRED	TV TVSS	TELEVISION TRANSIENT VOLT. SURGE	EQUIPMENT IDENTITY (SEE EQUIPMENT ABBREVIATION
	10	FEET	BFC BKR	BELOW FINISHED CEILING BREAKER	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	EQIUPMENT NUMBER
	1P @	1 POLE (2P, 3P, 4P ETC.) AT	BLDG	BUILDING	-	DRAWING	GEN GFI	GROUND FAULT	LOC	LOCATE OR LOCATION	No.	SWITCH/CONTROL NUMBER	RR	REMOVE AND REPLACE	ТҮР	CABINET TYPICAL	INDICATES PLAN & DETAIL N
	CL PL	CENTERLINE PLATE	BMS	BUILDING MANAGMENT SYSTEM	E (E)	EXISTING TO REMAIN	GFP	PROTECTOR GROUND FAULT	LT LTG	LIGHT LIGHTING	NPF	NORMAL POWER FACTOR	RSC RTU	RIGID STEEL CONDUIT ROOF TOP UNIT		TTTOAL	INDICATES DRAWING ON WI SECTION APPEARS
	Υ	WYE PHASE	BOC	BOTTOM OF CONCTRETE	(ER)	EXISTING TO BE RELOCATED	GND, G	PROTECTOR GROUND	LTNG	LIGHTNING LOW VOLTAGE	NRTL	NATIONALLY RECOGNIZED TESTING	ç		U UC	UNDER COUNTER	
	Ø	DIAMETER	C CAB	CABINET	EC	ELECTRICAL CONTRACTOR	GRS	GALVANIZED RIGID STEEL (CONDUIT)	LV		NTS	LABORATORY NOT TO SCALE	S/N	SOLID NEUTRAL	UE	UNDERGROUND ELECTRICAL	INDICATES DRAWING ON WI
	Δ	DELTA	CAT	CATALOG	EF EGC	EXHAUST FAN EQUIPMENT GROUND	GYP BD	GYPSUM BOARD	M M/C	MOMENTARY CONTACT	NW	NORMAL WEIGHT	S/S	STOP/START PUSHBUTTONS	UG UGE	UNDERGROUND UNDERGROUND	
	A A	AMPERE	CATV CB	CABLE TELEVITION CIRCUIT BREAKER		CONDUCTOR	н		mA MAG.S	MILLIAMPHERE MAGNETIC STARTER	O OC	ON CENTER	SC SD	SURFACE CONDUIT REMOTE CONTROL	UGT	ELECTRICAL	
	ABC	ABOVE COUNTER	CCTV	CLOSED CIRCUIT TELEVITION	ELEC ELEV	ELECTRIC, ELECTRICAL ELEVATOR	HID	HIGH INTENSITY DISCHARGE	MAX	MAXIMUM	OCPD	OVERCURRENT	SEC SF	SECONDARY SUPPLY FAN		TELEPHONE	# KEYNOTE INDICATOR
	AC AC	ABOVE COUNTER ALTERNATING CURRENT	CKT CI	CIRCUIT CURRENT LIMITING	EMERG EMS	EMERGENCY ENERGY MANAGEMENT	HOA	HANDS-OFF-AUTOMATIC SWITCH	MC	MECHANICAL CONTRACTOR	ОН	PROTECTION DEVICE OVERHEAD	SHT	SHEET	UH UON	UNIT HEATER UNLESS OTHERWISE	
	ACLG AF	ABOVE CEILING AMPERE FRAME RATING	CLG	CEILING	EMT	SYSTEM ELECTRICAL METALLIC	HORIZ HP	HORIZONTAL HORSEPOWER	MCB MCC	MAIN CIRCUIT BREAKE MOTOR CONTROL	R OL	OVERLOADS	SIM SP	SIMILAR SPARE	UTIL	NOTED UTILITY	# KEYNOTE INDICATOR - DEM
	AFC AFF	ABOVE FINISH CEILING ABOVE FINISH FLOOR	CM CMPR	CEILING MOUNTED COMPRESSOR	EP	TUBING ELECTRICAL PHEUMATIC	HPF	HIGH POWER FACTOR	MDP	CENTER MAIN DISTRIBUTION	Р	POLE	SPD	SURGE PROTECTION DEVICE	UV	UNIT VENTILATOR OR ULTRAVIOLET	
	AFG	ABOVE FINISH GRADE	CND COMB	CONDUIT COMBINATION	EPO	EMERGENCY POWER OFF	HTG	HEIGHT HEATING	MFR	PANEL MANUFACTURER	PA	PUBLIC ADDRESS	SPEC SPKR	SPECIFICATION SPEAKER	V		
	AFI	ARC FAULT CIRCUIT	CONN CONST	CONNECTION CONSTRUCTION	EQUIP ES	EQUIPMENT END SWITCH	HTR HV	HEATER HIGH VOLTAGE	MFS	MAIN FUSED DISCONNECT SWITCH	PB	PULL BOX OR PUSH BUTTON	SQ. FT.	SQUARE FOOT SURFACE RACEWAY	V	VOLT	
	AHJ	ATHORITY HAVING JURISDICTION	CONT	CONTINUATION OR CONTINUOUS	ETR EUH	EXISTING TO REMAIN ELECTTRIC UNIT HEATER	HVAC	HEATING, VENTILATION AND AIR CONDITIONING	MH MIC	MANHOLE MICROPHONE	PC PE	PLUMBING CONTRACTOR PHOTO ELECTRIC CELL	SR SS	STAINLESS STEEL OR	V.I.F. VA	VERIFY IN FIELD VOLT-AMPERES	
	AHU AL/ALUM	AIR HANDLING UNIT ALUMINUM	CONT	CONTIINUOUS	EWC	ELECTTRIC WATER COOLER	HWP HZ	HYDRONIC WATER PUMP HERTZ	MIN	MINIMUM	PED PF	PEDESTAL POWER FACTOR	SSW	SAFETY SWITCH SELECTOR SWITCH	VDT VERT	VIDEO DISPLAY TERMINAI VERTICAL	
	ALT AM	ALTERNATE AMMETER	CONV CP	CONVECTOR CIRCULATION PUMP OR	EWH	ELECTTRIC WATER HEATER	112		MISC MLO	MISCELLANEOUS MAIN LUGS ONLY	PH	PHASE POST INDICATING VALVE	ST STA	SINGLE THROW STATION	VFC	VARIABLE FREQUENCY CONTROLLER	
	AMP	AMPERE	CRT	CONTROL PANEL CATHODE-RAY TUBE	EXH	EXHAUST	I IC	INTERRUPTER CAPACITY	MOA MSBD	MULTIOUTLET ASSEMB MAIN SWITCHBOARD	LY PIV PNL	PANEL	STD SURF	STANDARD SURFACE MOUNTED	VFD	VARAIBLE FREQUENCY DRIVE	
	AMPL ANNUN	AMPLIFIER ANNUNCIATOR	CT CTR	CURRENT TRANSFORMER CENTER OR COUNTER	EXP	EXPLOSION PROOF	IG IMC	ISOLATED GROUND	MT MT.C	MOUNT EMPTY CONDUIT	PP PR	POWER POLE PAIR	SW	SWITCH	VM	VOLTMETER	
	APPROX AQ-STAT	APPROXIMATELY AQUASTAT	CU	COPPER	F F	FUSED	INC	CONDUIT	MTR	MOTOR, MOTORIZED	PRI PROJ	PRIMARY PROJECTION	SWBD SWGR	SWITCHBOARD SWITCHGEAR	VOL	VOLUME	
	ARCH	ARCHITECT, ARCHITECTURAL	D		FA FACP	FIRE ALARM FIRE ALARM CONTROL	IR	INFRARED	MTS	MANUAL TRANSFER SWITCH	PRV	POWER ROOF VENTILATOR	SYM SYS	SYMMETRICAL SYSTEM	W W	WATT OR WIRE	
	AS	AMP SWITCH RATING	DC DCP	DIRECT CURRENT DOMESTIC WATER		PANEL	J		MV	MEDIUM VOLTAGE	PT	POTENTIAL	т	0.012	W/ W/O	WITH WITHOUT	
	AT ATS	AMP TRIP RATING AUTOMATIC TRANSFER	DDCP	CIRCULATING PUMB	FBO FCU	FURNISHED BY OTHERS FAN CONTROL UNIT	J-BOX, JB	JUNCTION BOX	N		PVC	TRANSFORMER POLYVINYL CHLORIDE	T-STAT	THERMOSTAT	W/SF	WATTS PER SQUARE	
	AUTO	SWITCH AUTOMATIC		CONTROL PANEL	FIXT FLOUR	FIXTURE FLOURESCENT	K	KIDO	(N) N	NEW WORK NEUTRAL	PWR	(CONDUIT) POWER	TEL TEL/DATA	TELEPHONE TELEPHONE/DATA	WG	FOOT WIRE GUARD	
	AUX AV	AUXILIARY AUDIO VISUAL	DE DEPT	DUAL ELEMENT DEPARTMENT	FLR FU	FLOOR FUSE	ĸ K-FT	KIPS KIP-FOOT	N.C. N.O.	NORMALLY CLOSED NORMALLY OPEN	0		TERM	TERMINAL TWIST LOCK	WH WP	WATER HEATER WEATHERPROOF	
	AWG	AMERICAN WIRE GAUGE	DET DIA	DETAIL DIAMETER	FUDS	FUSED SAFETY	kcmil	THOUSAND CIRCULAR MILLS (MCM)	NEC	NATIONAL ELECTRICAL CODE	QUAN	QUANTITY	TR	TAMPER RESISTANT	v		
	В		DISC DIST	DISCONNECT DISTRIBUTION	FVNR	DISCONNECT SWITCH FULL VOLTAGE	kV KVA	KILOVOLT KILOVOLT-AMPHERE	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S	R		TS TTB	TIME SWITCH TELEPHONE TERMINAL	^ XFMR	TRANSFORMER	
	B/	BOTTOM OF	DN	DOWN		NON-REVERSING	KVAR	KILOVOLT-AMPERE REACTIVE		ASSOCIATION	(R)	REMOVE		BOARD	XFR	TRANSFER	
				DOWED			2014/52				ECTRIC	AL SYMBOL LIST					
	GENERAL	LIGHT LINE WEIGHT INDICATES		TO POWER POW	/ER POLE		POWER			POWER ①	SINGLE RECEP	T.120V,20A, NEMA 5-20R UNLESS	SIGNAL ##	"DI" DOOR INTERLO	СК	SITE EXT	ERIOR WALL MOUNTED LIGHTING FIXTURE.
		REMAIN OR PROVIDED BY OTHE HEAVY LINE WEIGHT INDICATES			ITING ARREST			FUSE			NOTED OTHER			"DO" ELECTRIC DOOF "EH" ELECTRIC HING	R OPERATOR	l'Z' LET	TER INDICATES FIXTURE TYPE ON LIGHTING TURE SCHEDULE. NUMBER INDICATES BRANCH
		PROVIDED BY E.C.				-		SAFETY DISC. SW. (NON-FU	SED)	Ψ	NOTED OTHER	PT.120V,20A, NEMA 5-20R UNLESS WISE		"EL" ELECTRIC LATC "ES" ELECTRIC STRIK	ΚE	CIR	
		HEAVY DASHED LINE INDICATES REMOVED OR RELOCATED BY E		IIGH	ITNING PROTE	CTION AIR TERMINAL		25A				HERPROOF TYPE WITH WEATHER - F WHILE IN USE COVER		"PS" POWER SUPPLY	R FOR ACCESS COI (FOR ACCESS CON	ITROL	ITY SERVICE POLE
	2a	LIGHT FIXTURE UPPER CASE LETTERS INDICA	TE FIXTURE TYP	E.		CTION CONDUCTOR SPLICE]3P				IND FAULT INTERRUPTER, 4-6mA		"RE" REQUEST TO E> "R" RELAY		## "UE" "UM	VE" UNDERGROUND MEDIUM VOLTAGE
	2 LA LA a	REFER TO LUMINAIRE SCHEDU LOWER CASE LETTERS INDICA		S. II⊢● GRO	OUND ROD			SAFETY DISC. SW. (FUSED) 25A			"AC" - ABOV	E COUNTER. 6" ABOVE COUNTER OTTOM OF DEVICE		"S" DOOR STATUS ("ML" MEGNETIC LOCH	K	"UT'	
		ARRANGEMENT. NUMBER INDI CIRCUIT. "EM" OR SHADING INI	ICATES BRANCH		OUND ROD (PLA		<u></u>	3P			"UC" - UNDE	R COUNTER BINETRY, RECESSED RECEPTACLE		"DC" DOOR CONTACT "CR" CARD READER	TS	"UCי ידטי	/" UNDERGROUND CABLE TELEVISION
	EM C EM	EMERGENCY LIGHTING.		● GRO	UND CONNEC	TION - EXOTHERMIC WELD	VEC	VARIABLE FREQUENCY CON	NTROLLER		"DF" - MOUN	ITED WITHIN DRINKING FOUNTAIN		"KP" KEYPAD "WAP" WIRELESS ACCI	ESS POINT	"UFI	(CATV OR CCTV) BR" UNDERGROUND FIBER OPTIC
	'X1' 'X1' ♥ ♥	EXIT SIGN LIGHT - WALL, CEILI		GRO	OUND TEST WE	ELL					HEIGI	HT IN FIELD USING APPROVED	□ □ □ □ □	CCTV CAMERA F=FIXED, P	=PAN, T=TILT, Z= ZC		
	⊻ ⊉	MOUNTED. LETTERS INDICATE TYPE. REFER TO LUMINAIRE S	CHEDULE FOR		UND CONNEC	TION TO STEEL OR STRUCTURE						IG MOUNTED	F HS S	SPEAKER (WALL OR CEILING	G MT.)	"ОН "ОН	
		DETAILS. ARROWS INDICATE D INDICATES NUMBER OF FACES			TION BOX CEI	LING/WALL MOUNTED		BUS DUCT WITH PLUG UN D	DISCONNECT (FUS	SED)	"USB-C" - WITH		₩1W1	NURSE CALL DOME LIGHT (4	4 LAMP)	FIRE ALARM	
	'X1' 'X1'	EXIT SIGN LIGHT WITH EMERGI		ADS. "FD" -	- FURNITURE D - DOOR ACTUA	DATA		CONDUIT CONCEALED IN W CONDUIT SHOWN WITHOUT		AD.	"CR" - CONT	ROLLED RECEPTACLE	+	NURSE CALL EMERG. STATI	ON	"A	ROL UNIT (PANEL) MP" AMPLIFIER RACK AA" FIRE ALARM ANNUNCIATOR
	<u> </u>	LETTERS INDICATE FIXTURE T	ETAILS. SHADING	; "HD" ·	- HAND DRYER			SHALL CONTAIN 2 #12 & 1#1 3/4" CONDUIT UNLESS SPEC	2G CONDUCTOR		SPLIT DUPLEX	RECEPT.	+			"F	AA FIRE ALARM ANNONCIATOR ACP" FIRE ALARM CONTROL PANEL IAC" NOTIFICATION CIRCUIT POWER
		INDICATES NUMBER OF FACES DOCK LIGHT	5.	PB PULI	LBOX			REQUIRES A DIFFERENT SIZ		•	ISOLATED GRC	OUND RECEPT (DUPLEX)	+ () + ()	NURSE CALL DUTY STATION NURSE CALL STAFF STATIO		ľ	BOOSTER EXTENDER PANEL
	'T <u>1'</u> 'T1'_	TRACK AND TRACK LIGHT		BGB 🕂 🔭 BUIL	DING GROUNE) BAR		CONDUIT SHOWN WITH SLA	SH MARKS SHAL	, P	RECEPT ON EM	IERGENCY CKT (DUPLEX)	+	NURSE CALL PATIENT PULL		## INTEF	RFACE AND SUPERVISORY DEVICES
	'TR1'			TGB 🛖 TELE	ECOM GROUNI	D BAR		CONTAIN 1#12 CONDUCTOR 3/4" CONDUIT UNLESS THE	R PER SLASH MAF	rkin 🕂 🕀	QUADRUPLEX UNLESS NOTEI	RECEPT. 120V,20A, NEMA 5-20R D OTHERWISE	+	NURSE CALL SINGLE PATIEN	NT STATION	"[OH" DOOR HOLDER OL" END OF LINE
	A PP	EMERGENCY LIGHT HEADS - S DOUBLE HEADS	SINGLE HEAD AN	D PANEL		LBOARD / DISTRIBUTION PANEL /		CONDUIT SIZE ARE SHOWN SLASH MARKS, SLASH MAR	ADJACENT TO TH	HE 📥		RECEPTACLE ON EMERGENCY	+	NURSE CALL DUAL PATIENT		"F	
		EMERGENCY BATTERY LIGHTI	NG UNIT. WIRE A		i 📹 Switc	CHBOARD / DISTRIBUTION PANEL / CHBOARD. SURFACE MOUNTED, 1 MOUNTED		SHORT STRAIGHT=PHASE C STRAIGHT=NEUTRAL COND	CONDUCTOR, LON	NG M	240 VOLT RECE	EPT.		NURSE CALL MASTER STAT NURSE CALL EQUIPMENT C.			'S" VALVE SUPERFISORY SWITCH
	Q	OF LOCAL SWITCHING				MOONTED		ENDED=SWITCH LEGS, LON DOT=GROUND CONDUCTOR		на 🔟	FLOOR RECEP	T. (DUPLEX SHOWN)		NURSE CALL ANNUNCIATOR	R PANEL	"AI	LARM INDICATION DEVICE M" ADDRESSABLE INPUT MODULE
		LIGHT ON CORD REEL LIGHT SWITCH 20A, 120/277V						CONDUIT CONCEALED			RECEPT ON DR	ROP CORD (DUPLEX SHOWN)	\$* (H)	VOLUME CONTROL HUMIDISTAT		"AC "H"	
	S	" " SINGLE POLE "K" KEY OPERATION						CONDUIT EXPOSED					Ť	THERMOSTAT			"R/F" = COMBINATION RISE/FIXED TEMPERTURE
		"3" 3-WAY OPERATION "LVS" LOW VOLTAGE	I	——————————————————————————————————————		DRAWOUT CIRCUIT BREAKER	—SR—	SURFACE RACEWAY			RECEPT ON CO	ORD REEL (DUPLEX SHOWN)	▼	TELEPHONE OUTLET BOX TWO GANG JUNCTION BOX	WITH 1 " CONDUIT		"F" = FIXED TEMPERTURE "R" = RATE OF RISE ONLY
		"WP" WEATHER PROOF "4" 4-WAY OPERATION	l				o	CONDUIT TRANSITION UP			SPECIAL RECE	PTACLE. NEMA CONFIGURATION AND)	STUBBED TO 6" ABOVE NEA CEILING, NYLON BUSHING C		.ND "S"	"I" = IONIZATION
		"a" SWITCHING ARRAN "T" TIMER					>	CONDUIT TRANSITION DOW	'N	Y I	RATING AS IND			ALL RACEWAYS. ALL CABLIN TESTING BY OTHERS.	NG, TERMINATIONS	AND	"P" = PHOTOELECTRIC "BR" = BEAM RECEIVER
		"P" PILOT LIGHT				T BREAKER SPACE		CONDUIT STUBBED OUT		P&S	PIN & SLEEVE (CONNECTOR / RECEPTACLE		DATA OUTLET BOX		<u> </u> "SS	"BT" = BEAM TRANSMITTER B" SMOKE DETECTOR SINGLE STATION
	S##	"OS" DUAL TECHNOLOG OCCUPANCY SENS	SOR	۰´۸۲		RCUIT BREAKER	—HT—	HEAT TRACE WIRING			CONNECTION 1			TWO GANG JUNCTION BOX STUBBED TO 6" ABOVE NEA	REST ACCESSIBLE		EDETECTOR/SENSOR FOR DUCT
		"D/OS" DUAL TECHNOLOG OCCUPANCY SENS		IYPE 🖸 🗖 ENC	LOSED CIRCUI	IT BREAKER		HOMERUN TO PANEL BOAR	D. LETTERS INDIC			JIPMENT SCHEDULE FOR DETAILS		CEILING, NYLON BUSHING C ALL RACEWAYS. ALL CABLIN		AND F BELL T	ROUBLE
		DIMMING "OS1" DUAL RELAY WALL		T Y ? TRAI	NSFORMER		LPB - 2	PANEL NAME. ARROWS IND 2,4 CIRCUITS. NUMBERS INDICA	ICATE NUMBER C ATE CIRCUIT	DF (‡	EQUIPMENT PL	UG	V	TESTING BY OTHERS. COMBINATION TELE/DATA C			NATION HORN/VISIBLE
		"OS2" OCCUPANCY SENS INFRARED WALL SV	WITCH TYPE	GEN	ERATOR			DESIGNATIONS IN PANEL.		H⊨⊖	MULTIPLE SER	VICE OUTLET		TWO GANG JUNCTION BOX STUBBED TO 6" ABOVE NEA	REST ACCESSIBLE		D" CANDELA RATING/SETTING COMBINATION SPEAKER/VISIBLE
		OCCUPANCY SENS "D" 0-10V WALL SWITCI "VS" WALL SWITCH TYPI	H DIMMER								MULTIPLE SER	VICE FLR OUTLET		CEILING, NYLON BUSHING C ALL RACEWAYS. ALL CABLIN			"CD" CANDELA RATING/SETTING "C" = CEILING MOUNT
		"VS" WALL SWITCH TYPI "D/VS" WALL SWITCH TYPI WITH 0-10V DIMMIN	E VACANCY SEN	ISOR MAN	IUAL MOTOR S	TARTER WITH THERMAL				\oplus			ייש ונידן	TESTING BY OTHERS.		_	
		"D/S" WALL POD WITH PF 0-10V DIMMING		AND S ^M OVE	RLOAD							ASSEMBLY / PLUGMOLD		TELEVISION OUTLET CEILIN MULTIPLE SERVICE FLR OU		S C SPEAK	ER ONLY - WALL MOUNT
			0.000			RTER OR CONTACTOR					EMERGENCY C	OFF PUSH BUTTON		MULTIOUTLET ASSEMBLY		"C"	CEILING MOUNT
	os	OCCUPANCY SENSOR - CEILIN "A" - 1000 SQ. FT. COVERAC	GE										9 CP	CLOCK (WALL MOUNT)			
		"B" - 2000 SQ. FT. COVERAC "C" - HALLWAY TYPE "W", WALL MOUNTED	JE		IB. MOTOR ST	ARTER (FUSED)								UNDERFLOOR RACEWAY SY CABLE TRAY. "FS" INDICATE			
∍		"W"- WALL MOUNTED VACANCY SENSOR - CEILING M		$[] \left(\begin{array}{c} H \\ O \end{array} \right) $									FS				VISIBLE ONLY (STROBE) WALL / CEILING CD - CANDELA RATING / SETTING
49 AM		"A" - 1000 SQ. FT. COVERAC "B" - 2000 SQ. FT. COVERAC	GE			ARTER WITH RESET BUTTON, ACTUATOR, AND INDICATOR							<u></u>	CONDUIT SLEEVE		─────────────────────────────────────	VISIBLE ONLY (STROBE) EMERGENCY WALL /
:21:4		"W"- WALL MOUNTED	~										LA' ■-□	POLE WITH STANCHION MO LETTERS INDICATED FIXTUR			CEILING CD - CANDELA RATING / SETTING
3 11	##	"PP" - POWER PACK "PC" - PHOTOCELL FOR LIGH		.									2	FIXTURE SCHEDULE. NUMBI CIRCUIT.		NCH 🛛 🗖 COMBI	NATION SPEAKER / VISIBLE APPLIANCE CEILILNG MOUNT
023		"RC" - ROOM CONTROLLER											2	BOLLARD LIGHTING FIXTUR	E. LETTER INDICATE		

LSA LIGHT LEVEL SENSOR - TYPE DENOTED

"TC" - TIME CLOCK

"C" CEILILNG MOUNT CIRCUIT.

'Z'-

FIXTURE TYPE ON LIGHTING FIXTURE SCHEDULE.

NUMBER INDICATES BRANCH CIRCUIT.

REFERENCE SYMBOLS

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

> INDICATES SECTION NUMBER INDICATES DRAWING ON WHICH SECTION APPEARS

KEYNOTE INDICATOR - DEMOLITION

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, PROXIMITY 4" FROM FRONT EDGE OF 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 LIGHT SWITCHES 42" AFF MOTOR STARTERS 72" MAX TO OPERATING 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.

ICATES FIXTURE TYPE ON LIGHTING HEDULE. NUMBER INDICATES BRANCH
VICE POLE
UNDERGROUND ELECTRIC UNDERGROUND MEDIUM VOLTAGE ELECTRIC
UNDERGROUND TELEPHONE UNDERGROUND COMMUNICATIONS

DRESSABLE OUTPUT CONTROL MODULE AT DETECTION TYPE "R/F" = COMBINATION RISE/FIXED

11.

CO2 CARBON DIOXIDE DETECTOR

CO CARBON MONOXIDE DETECTOR

- 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. 2. DERATE CONDUCTORS PER NEC FOR VOLTAGE DROP AND CONDUIT FILL.
- 3. PROVIDE GROUNDING PER NEC (ARTICLE 250).
- PROVIDE A SEPARATE NEUTRAL CONDUCTOR FROM PANELBOARD FOR EACH BRANCH CIRCUIT.
- CONTRACTOR SHALL COORDINATE WORK WITH 5. ASSOCIATED TRADES.
- 6. CONTRACTOR SHALL SEAL WITH AN APPROVED METHOD ALL ELECTRICAL PENETRATIONS THRU FIRE FLOOR/PROOF/RATED WALLS, FLOORS, CEILINGS OR OTHER AREAS.
- CONTRACTOR SHALL PROVIDE FUSES SIZED PER 7. MANUFACTURERS RECOMMENDATIONS FOR ALL EQUIPMENT INSTALLED WITH FUSED STARTERS OR DISCONNECTS.
- 8. 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 9. 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 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.
- 12. REFER TO LIFE SAFETY AND ARCHITECTURAL PLANS FOR 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.
- 14. RECEPTACLES AND TELECOMMUNICATION BOXES SHALL NOT LOCATED BACK-TO-BACK ON WALL. PROVIDE A MINIMUM OF 6" OF SEPARATION BETWEEN BOXES.

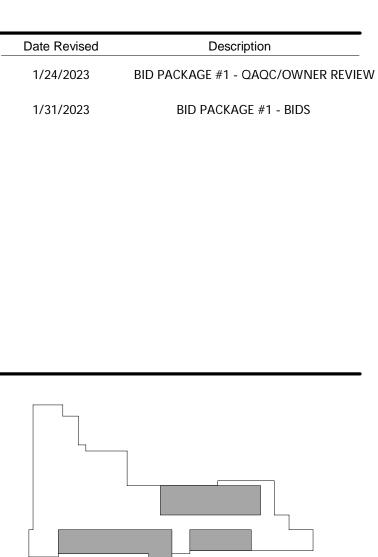


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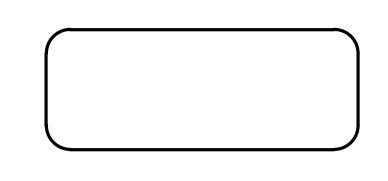


COMMUNITY EDUCATION CENTER

1765 ADA AVENUE MUSKEGON, MI 49442



Key Plan



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Date Issued	Project Number
01/31/2023	16600.00

Sheet Name

LEGEND

FOO1

DIVISION 26

ELECTRICAL SPECIFICATIONS

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

- 1. WIRING METHODS.
- 2. NON-FUSED AND FUSED SWITCHES. 3. DEVICES.
- 4. PANELBOARDS 5. TRANSFER SWITCHES
- 6. MOTORS AND CONTROLS. 7. LIGHTING.
- 8. COMMUNICATIONS HORIZONTAL CABLING 9. TEMPORARY POWER AND 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.

CODES AND ORDINANCES 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.

GUARANTEE

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

LAYOUT OF THE WORK

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.

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.

CUTTING AND PATCHING

ALL NECESSARY CUTTING OF THE BUILDING CONSTRUCTION FOR THE NEW INSTALLATION OF THE WORK SHALL BE FURNISHED BY THE CONTRACTOR. NO STRUCTURAL MEMBERS OF THE BUILDING SHALL BE CUT WITHOUT PRIOR APPROVAL OF THE ARCHITECT. ALL NECESSARY PATCHING OF THESE SURFACES TO BE FURNISHED BY THIS CONTRACTOR.

ELECTRICAL PANELS

BRANCH PANELS SHALL BE SIMILAR AND EQUAL TO SQUARE D TYPE NQOD, CIRCUIT BREAKER TYPE, RECESSED OR FLUSH MOUNTED AS SHOWN, COPPER BUS, 10,000 AIC RATED MINIMUM, HINGED LOCKABLE DOOR, BOLT-IN BREAKERS WITH MAIN BREAKER OR MLO AS INDICATED ON RISER DIAGRAM.

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 NUMBE

EXAMINE THE SITE AND ALL THE DRAWINGS BEFORE PROCEEDING WITH

<u>CONDUIT</u>

ALL CONDUIT SHALL BE 3/4-INCH MINIMUM UNLESS NOTED OTHERWISE. WIRING METHODS: EXTERIOR EXPOSED AND CONCEALED: RGC, INTERIOR EXPOSED/CONCEALED UNDER 2-INCHES: EMT, CONNECTIONS TO VIBRATING EQUIPMENT: 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. INSTALL SLEEVES THROUGH STRUCTURAL CONCRETE OR WHERE PENETRATING STRUCTURAL FLOOR DECKS. 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.

OUTLET BOXES A STANDARD GALVANIZED OUTLET BOX, COMPLETE WITH PLASTER RING, IF NECESSARY, SHALL BE INSTALLED FOR EACH AND EVERY FIXTURE AND OUTLET SHOWN. EACH OUTLET SHALL BE RIGIDLY SUPPORTED FROM THE BUILDING CONSTRUCTION (INDEPENDENT OF THE RACEWAY SYSTEM). CEILING OUTLET BOXES SHALL BE 4-INCH OCTAGON, 1-1/2-INCH DEEP, WITH FIXTURE HICKEY, AND SUPPORTED TO WITHSTAND 80 LBS.

EQUIPMENT GROUNDING CONDUCTOR INSTALL EQUIPMENT GROUNDING CONDUCTOR IN RACEWAYS WITH CONDUCTORS FOR ALL FEEDER AND BRANCH CIRCUITS.

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

COMMUNICATIONS HORIZONTAL CABLING

FURNISH ALL LABOR, MATERIALS, TOOLS, AND EQUIPMENT NECESSARY AND REASONABLY INCIDENTAL TO THE INSTALLATION OF ANY EMPTY CONDUIT SYSTEM CONSISTING OF CABINETS, CONDUIT, OUTLET BOXES, COVERS, AND PLATES FOR THE INSTALLATION OF TELEPHONE SYSTEM BY OTHERS.

WALL SWITCHES

SWITCHES SHALL BE SPECIFICATION GRADE TOGGLE TYPE, SINGLE-POLE, THREE-WAY TWO POSITION DEVICES RATED AT 20A.

<u>CONVENIENCE OUTLETS</u> OUTLETS SHALL BE SPECIFICATIONS GRADE, 20A, 125VAC, 2-POLE, 3-WIRE DUPLEX CONFORMING TO NEMA WD 6, NEMA 5-20R UNLESS NOTED OTHERWISE.

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

FUSED/NON-FUSED SWITCHES SWITCHES FOR 30 AMPERES TO 200 AMPERE OPERATION SHALL BE SQUARE D TYPE HD, OR EQUAL WITH ENCLOSURE, VOLTAGE, CURRENT RATING NUMBER OF POLES, AND FUSING AS INDICATED. SWITCH CONSTRUCTION SHALL BE SUCH THAT, WHEN THE SWITCH HANDLE IN THE "ON" POSITION, THE COVER OR DOOR CANNOT BE OPENED.

SUPPORTS AND HANGERS PROVIDE AND INSTALL NECESSARY STEEL BRACKETS, RODS, CLAMPS, ETC., FOR SUPPORT OF ALL WORK UNDER THIS CONTRACT.

LIGHTING CONTROL PROVIDE AUTOMATIC LIGHTING CONTROL AS SHOWN ON DRAWING.

FIRE ALARM PROVIDE DEVICES AS SHOWN. EXTEND EXISTING FIRE ALARM SYSTEM AS REQUIRED.

END OF DIVISION 26



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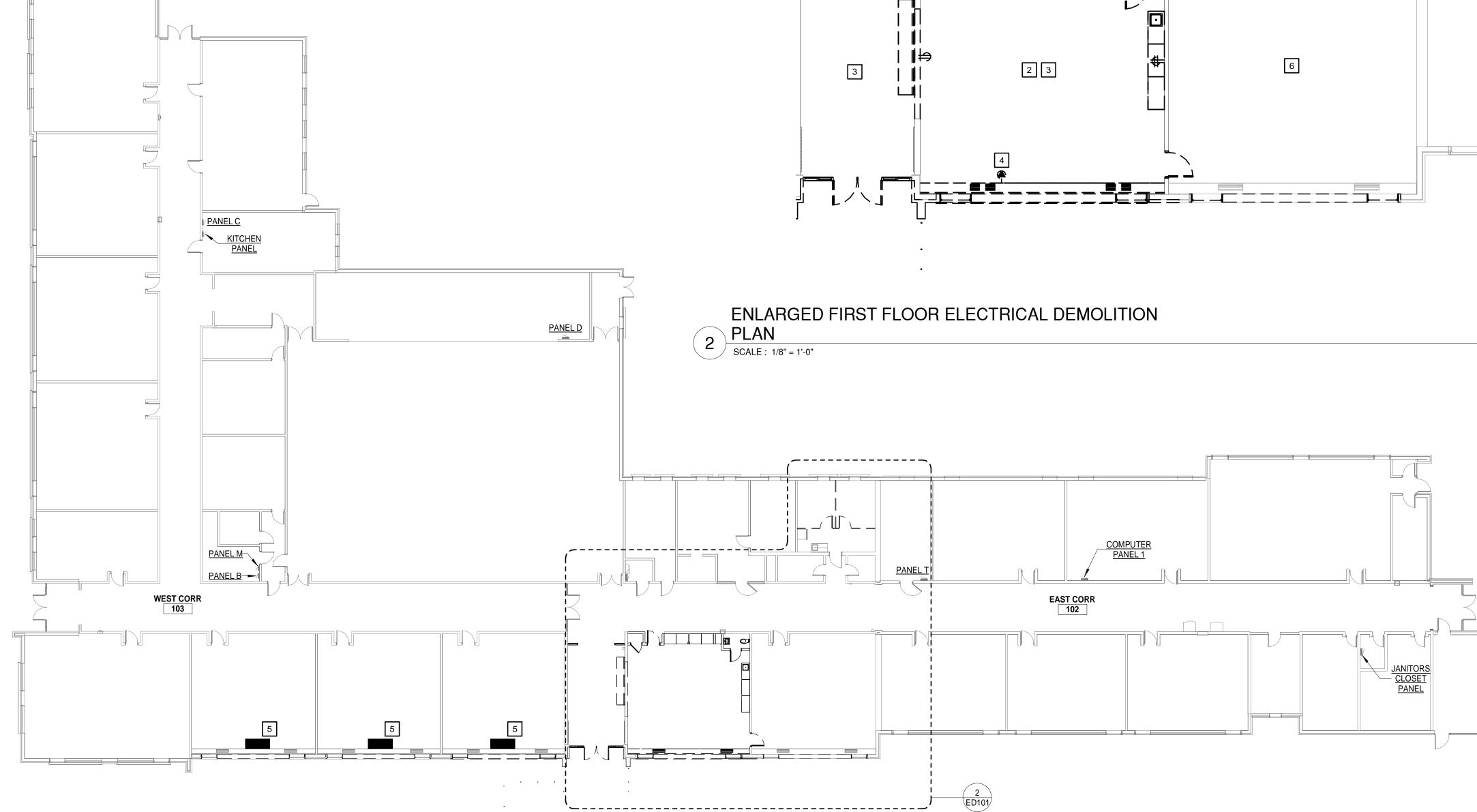
Project Manager D HOLTROP	Discipline Lead A ROBINSON
Designer J BOIK	Reviewer A ROBINSON
Date Issued	Project Number
01/31/2023	16600.00

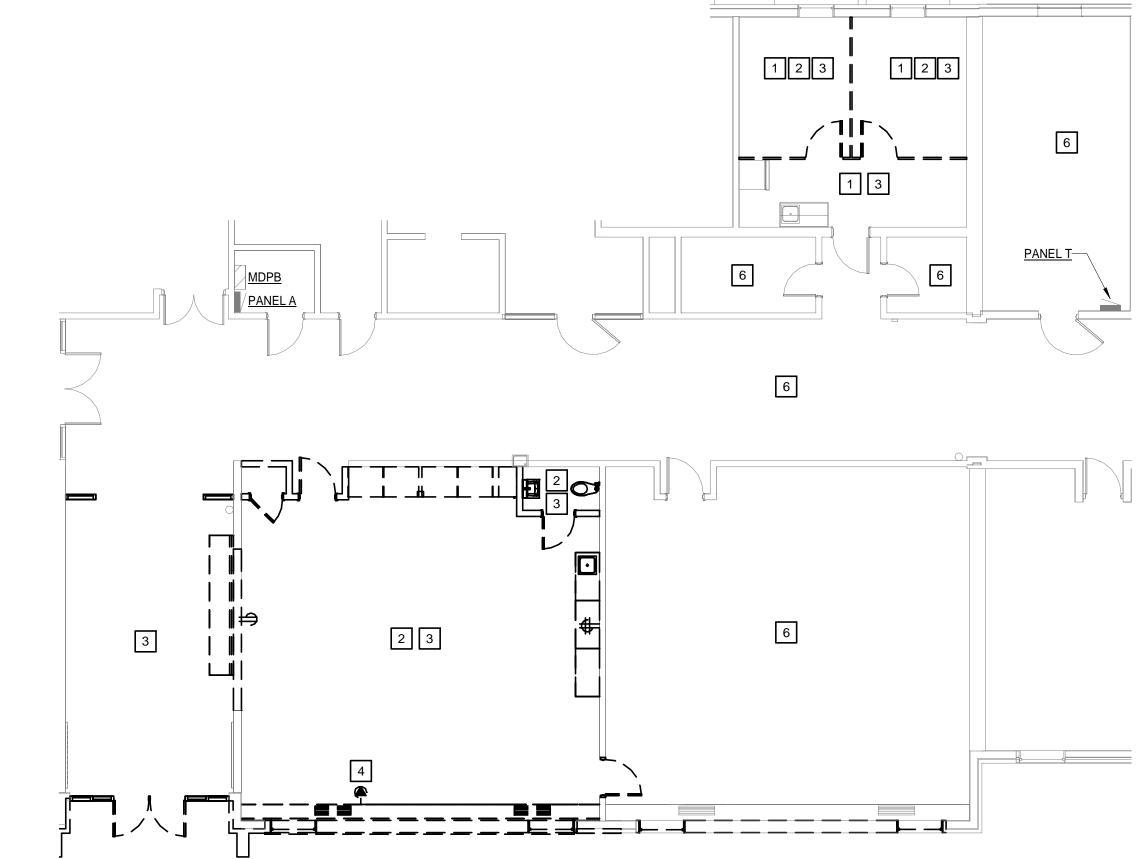
Sheet Name

SPECIFICATIONS

FOO2

1 FIRST FLOOR ELECTRICAL DEMOLITION PLAN SCALE : 1/16" = 1'-0"





GENERAL NOTES:

- A. ANY EXISTING CONDITIONS INDICATED ARE BASED ON INFORMATION PROVIDED BY OTHERS AND POSSIBLE LIMITED FIELD VERIFICATION. THE CONTRACTOR SHALL ADJUST FOR THE ACTUAL FIELD CONDITIONS AT NO EXPENSE TO THE OWNER.
- B. THE CONTRACTOR SHALL VISIT THE PROJECT SITE, REVIEW EXISTING CONDITIONS AGAINST THE PLANS, AND FAMILIARIZE THEMSELF WITH THE WORK PRIOR TO BIDDING AND START OF THE WORK.
- C. THE CONTRACTOR IS RESPONSIBLE FOR DEMOLITION OF EXISTING EQUIPMENT, DEVICES, AND LUMINAIRES AS INDICATED AND/OR AS REQUIRED TO ALLOW FOR INSTALLATION AND CONSTRUCTION OF THE NEW WORK. REMOVE ALL EQUIPMENT, DEVICES, LUMINAIRES, CONDUITS, SUPPORTS, HANGERS, ECT. THAT ARE NOT SHOWN AND ARE REQUIRED TO BE REMOVED IN ORDER TO COMPLETE THE NEW WORK.
- D. CONTRACTOR SHALL DISCONNECT AND REMOVE ALL DEVICES IN WALLS BEING REMOVED. REMOVE BOXES, CONDUITS, AND WIRE TO SOURCE OR FIRST JUNCTION BOX TO MAINTAIN EXISTING DEVICES ON SAME CIRUIT.
- E. MAINTAIN CONTINUITY OF EXISTING CIRCUITS AS REQUIRED TO PROVIDE POWER TO REMAINING EQUIPMENT, DEVICES, AND LUMINAIRES THAT ARE NOT BEING REMOVED.

KEYNOTES

BOILER 2

BOILER 1

MDP -----

- 1 DEVICES ON EXTERIOR WALLS IN SPACE SHALL REMAIN UNLESS NOTED OTHERWISE
- 2 DISCONNECT AND REMOVE ALL DEVICES IN SPACE. REMOVE ALL CONDUIT AND WIRE TO FIRST JUNCTION BOX. ALL DEVICES REMAINING ON CIRCUIT SHALL REMAIN ACTIVE.
- 3 CONTRACTOR SHALL DISCONNECT AND REMOVE LIGHT FIXTURES IN SPACE. REFER TO NEW LIGHTING PLANS. REMOVE LUMINAIRE WHIP TO FIRST JUNCTION BOX. FEEDER CONDUIT AND WIRE MAY REMAIN FOR NEW WORK.
- 4 DISCONNECT AND REMOVE WINDOW AC UNIT RECEPTACLE, CONDUIT, RACEWAY AND WIRE TO SOURCE. REMOVE BREAKER FROM PANEL.
- 5 DISCONNECT HEAT PUMP FOR RELOCATION BY OTHERS. REFER TO NEW PLANS FOR NEW LOCATION.
- 6 NO WORK IN SPACE UNLESS NOTED OTHERWISE.



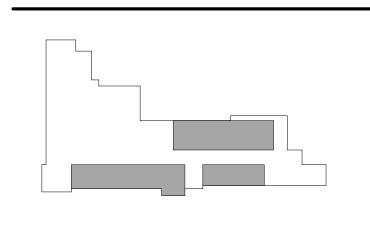
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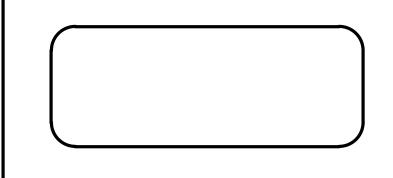
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Key Plan



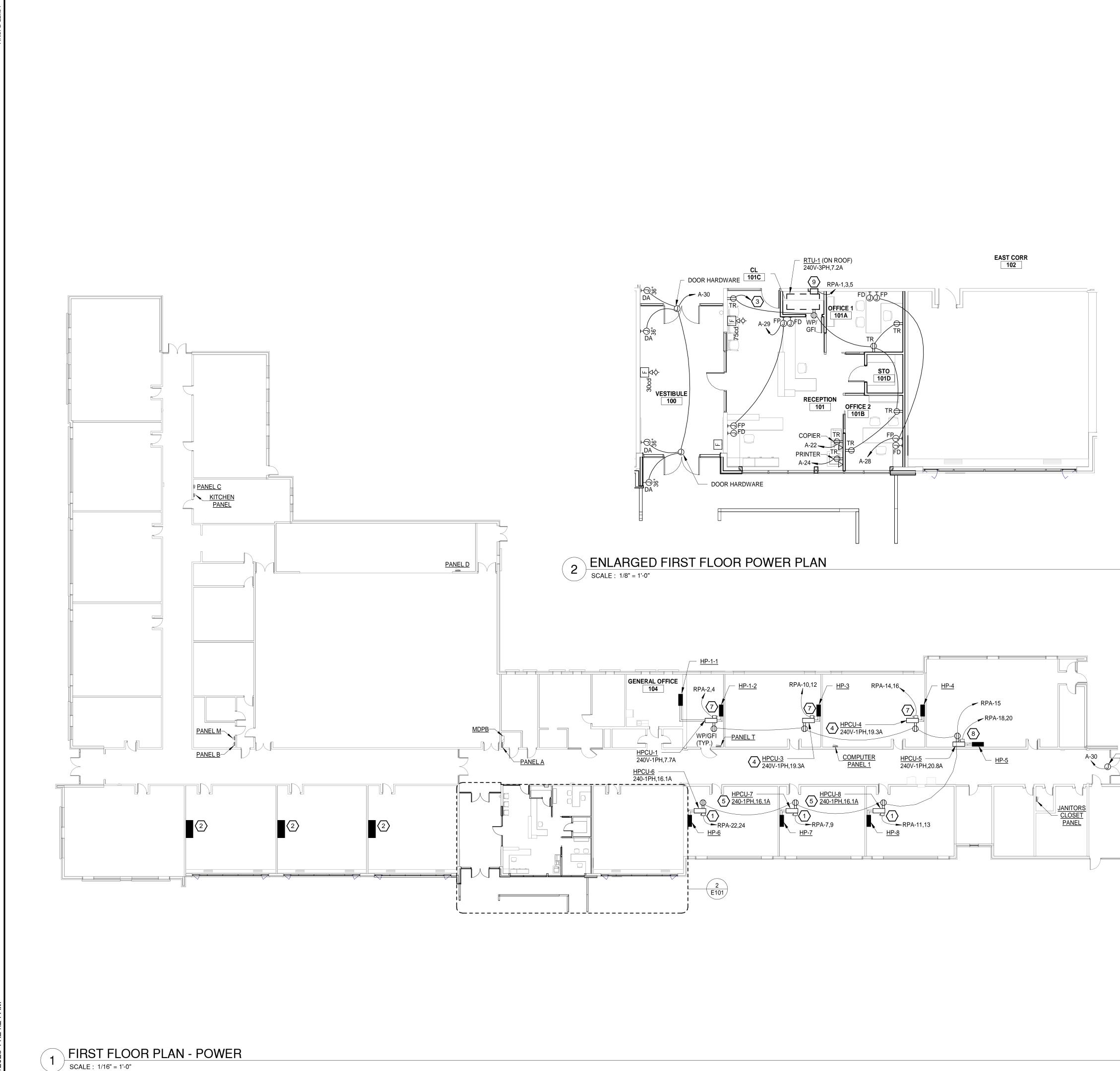
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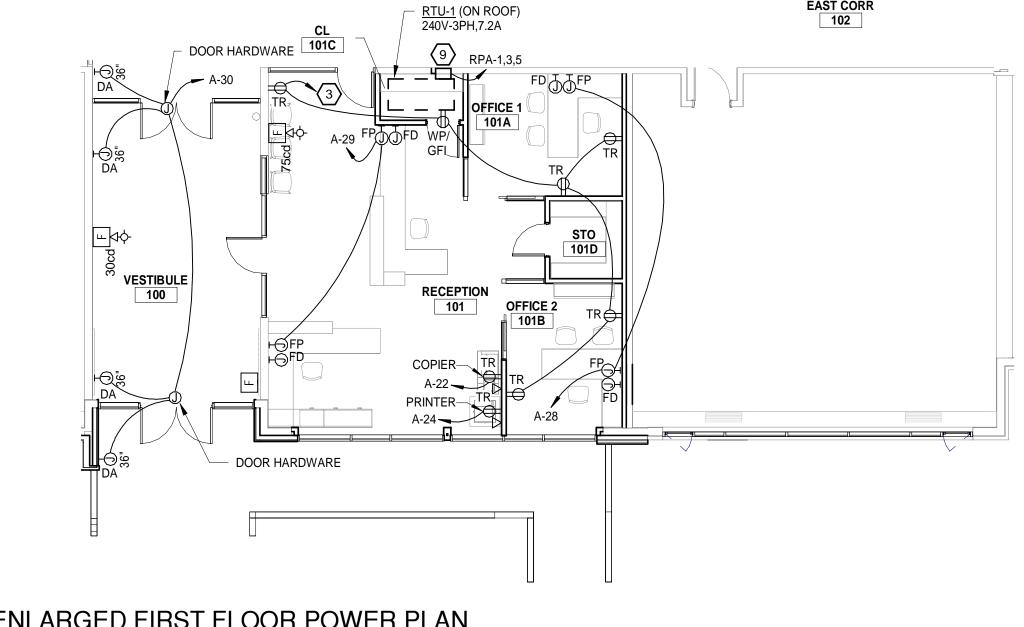
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ELECTRICAL DEMOLITION PLAN

ED101





KEYNOTES (#)

- 1 PROVIDE 30A/3P NON-FUSED NEMA 3R DISCONNECT ON ROOF AND MOUNT ON SEPARATE SUPPORTS. PROVIDE AC POWER FEED DOWN TO FAN UNIT IN 3/4" CONDUIT. SEAL ALL PENETRATIONS TO MAINTAIN ROOF SYSTEM. PENETRATIONS AND EXPOSED CONDUIT SHALL BE RIGID CONDUIT WITH LFNC FOR FINAL CONNECTION.
- 2 RELOCATED SIDEWALL HEAT PUMP CASSETTE. EXTEND CONDUIT, WIRE, AND CONTROLS AS REQUIRED.
- 3 CIRCUIT NEW RECEPTACLES TO EXISTING CIRCUIT SERVING PREVIOUS RECEPTACLES IN SPACE.
- 4 ALTERNATE 1: DO NOT PROVIDE HCPU-3 AND HPCU-4 SPLIT SYSTEMS. INSTEAD PROVIDE A 240V-1PH, 40A CIRCUIT FROM PANEL RPA. PROVIDE A 40A/2P BREAKER, 2#8,#10EGC IN 3/4" CND TO ALTERNATE EQUIPMENT.
- 5 ALTERNATE 1: DO NOT PROVIDE HCPU-7 AND HPCU-8 SPLIT SYSTEMS. INSTEAD PROVIDE A 240V-1PH, 40A CIRCUIT FROM PANEL RPA. PROVIDE A 40A/2P BREAKER, 2#8,#10EGC IN 3/4" CND TO ALTERNATE EQUIPMENT.
- 7 PROVIDE 30A/3P NON-FUSED NEMA 3R DISCONNECT ON ROOF AND MOUNT ON SEPARATE SUPPORTS. PROVIDE 2#10,1#10GEC IN 3/4" CND. PROVIDE AC POWER FEED DOWN TO FAN UNIT IN 3/4" CONDUIT. SEAL ALL PENETRATIONS TO MAINTAIN ROOF SYSTEM. PENETRATIONS AND EXPOSED CONDUIT SHALL BE RIGID CONDUIT WITH LFNC FOR FINAL CONNECTION.
- 8 PROVIDE 60A/3P NON-FUSED NEMA 3R DISCONNECT ON ROOF AND MOUNT ON SEPARATE SUPPORTS. PROVIDE 2#8,1#10GEC IN 3/4" CND. PROVIDE AC POWER FEED DOWN TO FAN UNIT IN 3/4" CONDUIT. SEAL ALL PENETRATIONS TO MAINTAIN ROOF SYSTEM. PENETRATIONS AND EXPOSED CONDUIT SHALL BE RIGID CONDUIT WITH LFNC FOR FINAL CONNECTION.
- 9 PROVIDE 30A/3P NON-FUSED NEMA 3R DISCONNECT SWITCH

- DOOR HARDWARE

NEW PANEL

RPA

NEW LCP

<u>BOILER 2</u>

BOILER 1

MDP -----

RPA-26



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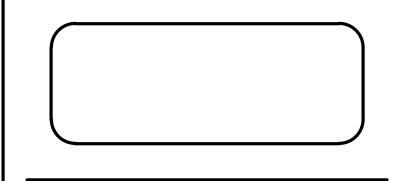
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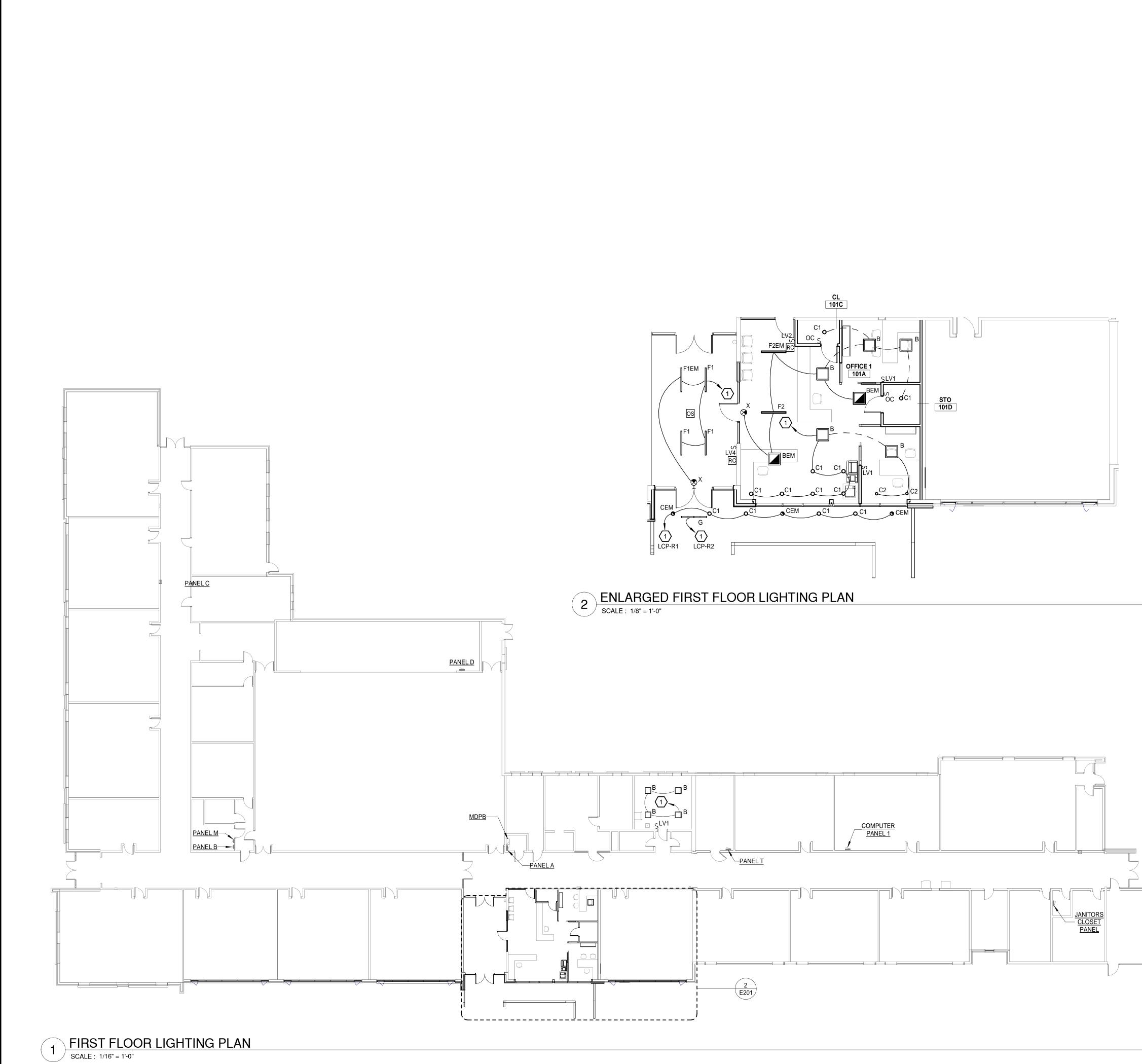
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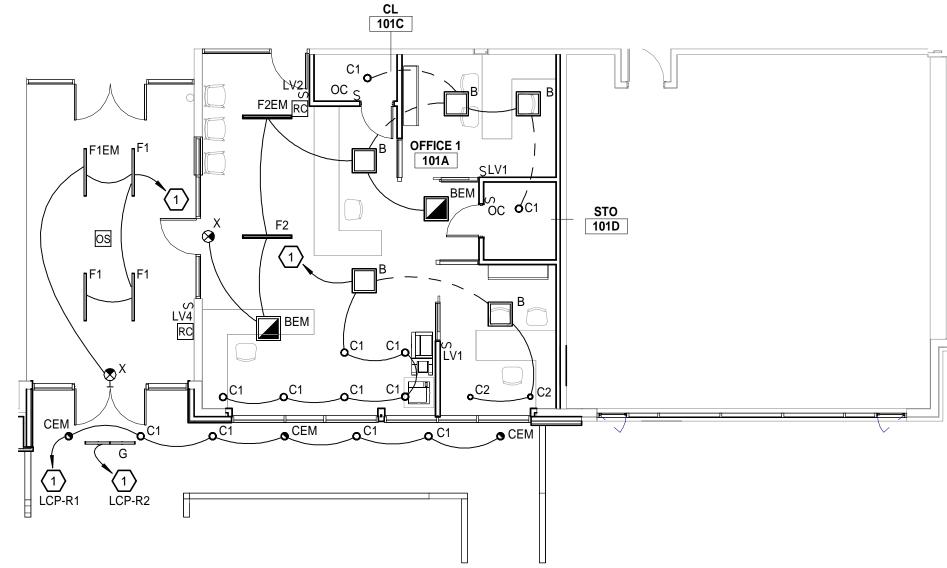
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Designer J BOIK	Reviewer A ROBINSON
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POWER PLAN

E101







KEYNOTES (#>

2<u>NEW LCP</u>-/

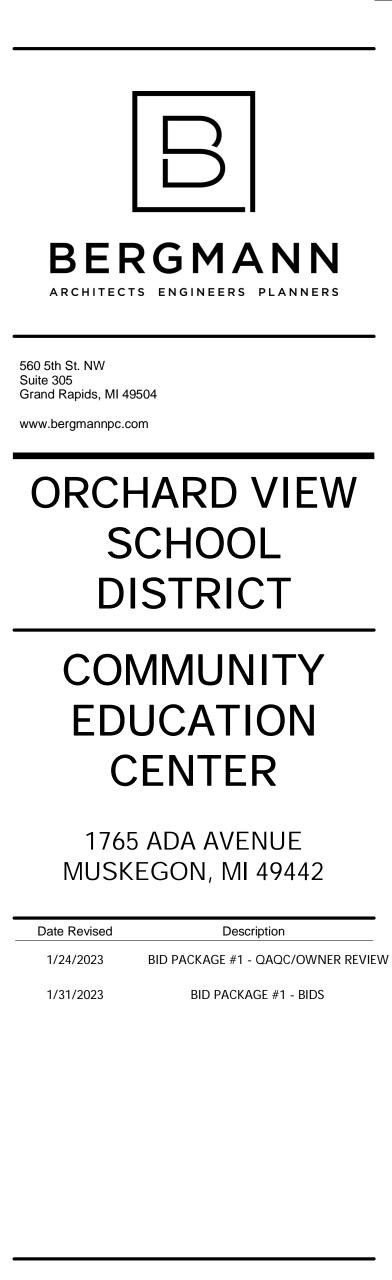
BOILER 2/

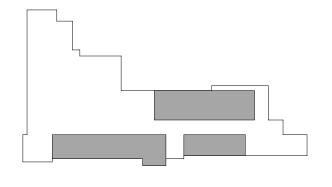
BOILER 1

<u>MDP</u>

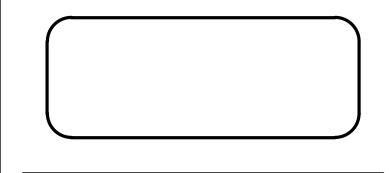
NEW PANEL <u>RPA</u>

- 1 REUSE EXISTING LIGHTING CIRCUIT SERVING SPACE.
- 2 PROVIDE LIGHTING CONTROL PANEL WITH 4-RELAYS AND ASTROCLOCK EQUAL TO BLUEBOX LT.





Key Plan



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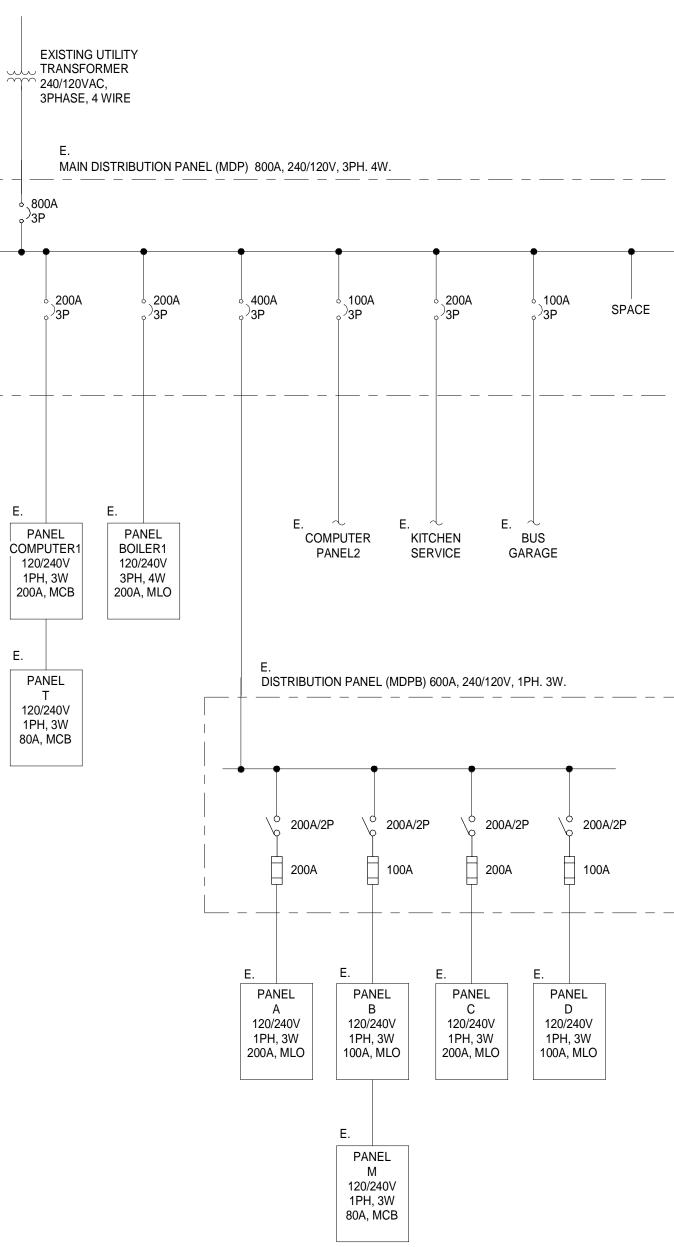
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Designer	Reviewer
J BOIK	A ROBINSON
Date Issued	Project Number
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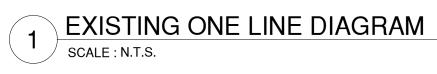
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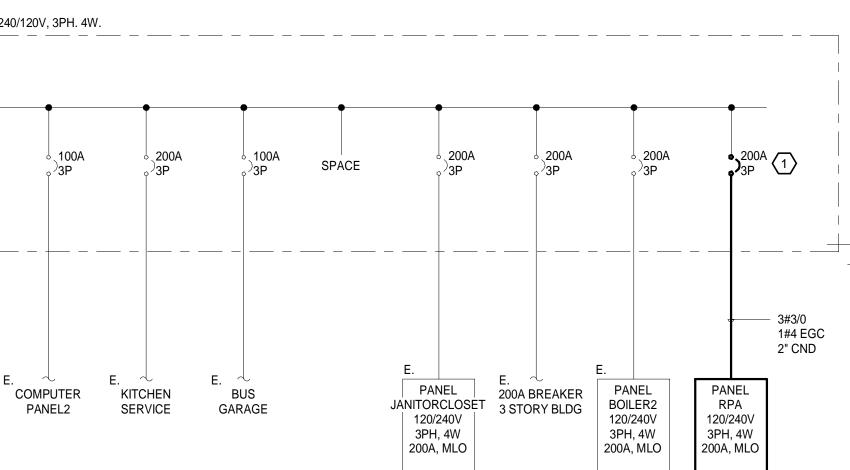
LIGHTING PLAN

E201









			NEC EL	ECTRICAL	LOAD SU	I
			CONNECTED	LOADS		-
PANEL	LARGEST MOTOR	MECH/MOTOR	LIGHTING	RECEPT.	KITCHEN	
Existing Peak Demand						
RTU-1		2991.0				
HPCU-1		2148.0				Ī
HPCU-2		2148.0				1
HPCU-3		4632.0				
HPCU-4		4632.0				Ī
HPCU-5	4992.0					
HPCU-6		3864.0				Ī
HPCU-7		3864.0				Ī
HPCU-8		3864.0				1
TOTAL	4992.0	28143.0	0.0	0.0	0.0	F
SYSTEM VOLTAGE	240.0	v	SYSTEM PHASE	3.0		
CONNECTED:	128335.0	VA				
DEMAND:	129583.0	VA				Ĺ
CONNECTED:	309.1	Α				Ĺ
DEMAND:	312.1	Α				Ī

PEAK DEMAND PROVIDED BY UTILITY COMPANY; 9520 kWh

SINGLE LINE DIAGRAM NOTES:

- A. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- B. ALL GEAR, CONDUIT AND WIRE SHALL REMAIN UNLESS NOTED OTHERWISE.

KEYNOTES (#>

1 PROVIDE NEW 200A/3P BREAKER IN EXISTING SQAURE D I-LINE DISTRIBUTION PANEL



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Description

		DEMAND	LOADS		
LARGEST MOTOR	MECH	LIGHTING	RECEPT.	KITCHEN	OTHER
6240.0	28143.0	0.0	0.0	0.0	95200.0
	MOTOR	MOTOR MECH	LARGEST MOTOR MECH LIGHTING	MOTOR MECH LIGHTING RECEPT.	LARGEST MOTOR MECH LIGHTING RECEPT. KITCHEN

UMMARY - 800A Service

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Discipline Lead
Reviewer
Project Number
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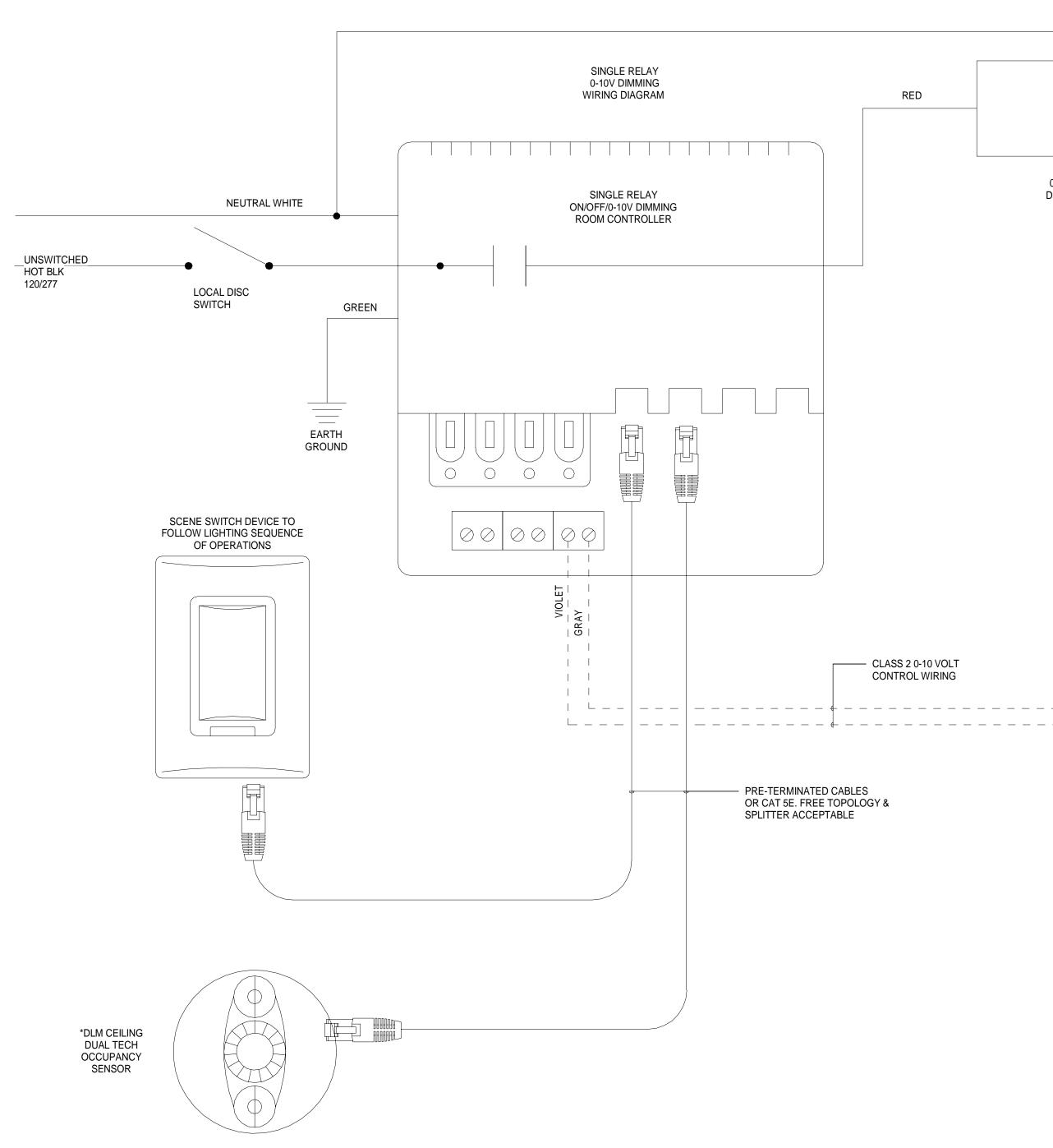
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ONE-LINE DIAGRAM

E601

31/2023 11:21:56 AM

NSI D 22x34



1 ROOM CONTROLLER DETAIL SCALE : 1" = N.T.S

LIGHTING LOAD (A)			B
GENERAL	VIOLET 		ı GMANN
0-10VDC DIMMING DRIVER REQUIRED.			ENGINEERS PLANNERS
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		EDU	MUNITY CATION NTER
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		D	ETAILS
		Drawing Number	

E701

- SEQUENCE OF OPERATION: 1. LIGHTING CONTROL INTENTION IS TO USE LIGHT FIXTURES WITH INTEGRATED ON VOLTAGE SWITCHES, UNLESS NOTED OTHERWISE WITH ROOM CONTROLLERS SHALL MEET CONTROL INTENTIONS AND COORDINATED WITH ELECTRICAL CO AND INSTALLATION.
- 2. ALL SWITCHES WITH "LV#" ARE LOW VOLTAGE WIRED CONTROL STATIONS. PR PROGRAMMED SCENES. NETWORK ROOM CONTROLLER AND INTREGRATED CO DAY FEATURES

3. LV1: ENCLOSED OFFICE:

- A. LIGHTING COME ON AUTOMATICALLY AT 50% UPON ENTRANCE TO SPACE.B. LIGHTING SHALL REMAIN ON UNTIL 20-MINUTES AFTER NO ACTIVITY AND THE C. LOCAL OVERRIDE STATIONS SHALL INCLUDE BUTTONS (LABEL: PROGRAMM
- a. ON: LUMINAIRES 100%.b. 50%: LUMINAIRES AT 50%
- DIM UP С.
- DIM DOWN d. e. OFF: LUMINAIRES ALL OFF
- 4. LV2: OPEN OFFICE: A. LIGHTING COME ON AUTOMATICALLY AT 50% UPON ENTRANCE TO SPACE. B. LIGHTING SHALL REMAIN ON UNTIL 20-MINUTES AFTER NO ACTIVITY AND TH
- C. LOCAL OVERRIDE STATIONS SHALL INCLUDE BUTTONS (LABEL: PROGRAMM a. ON: LUMINAIRES 100%. b. 50%: LUMINAIRES AT 50%
- c. DIM UP
- d. DIM DOWN e. OFF: LUMINAIRES ALL OFF
- 6. LV4: CORRIDORS/VESTIBULE:
- A. LIGHTING COME ON AUTOMATICALLY AT 50% DURING NORMAL OCCUPIED B. OCCUPANCY SENSOR SHALL DIM LIGHTS TO 100% UPON AREA OCCUPANC
- C. OCCUPANCY SENSOR SHALL DIM LIGHTS TO 50% UPON 30 MINUTES OF NO D. NETWORK TO SYSTEM FOR TIME OF DAY. SYSTEM SHALL TURN LIGHTING (
- E. LOCAL OVERRIDE STATIONS SHALL INCLUDE BUTTONS (LABEL: PROGRAMM a. ON: LUMINAIRES 100%.
- b. 50%: LUMINAIRES AT 50% DIM UP
- С. d. DIM DOWN
- e. OFF: LUMINAIRES ALL OFF
- 7. LV5: STORAGE:
- A. PROVIDE SWITCH STYLE OCCUPANCY SENSOR.B. LV7 STATIONS SHALL INCLUDE BUTTONS

A. ON

B. OFF

					LUMINAIRE SCHEDULE				
ED CONTROLS AND ASSOCIATED LOW ERS. DEVIATION FROM THIS SOLUTION	TYPE	LAMP	MANUFACTURER	MODEL NUMBER	BALLAST/DRIVER	MOUNTING	INPUT WATTAGE	DESCRIPTION	NOTE
CONTRACTOR FOR ADDITIONAL WIRING			METALUX	24CZ2-40-UNV-L835-CD1-SWPD1					
. PROVIDE ON/OFF BUTTONS, PRE-	A	4000 LUMEN,	COLUMBIA	LCAT-24-40-HL-G-ED-U-NXES	0-10V	RECESED GRID	29W	2x4 TROFFER. PROVIDE INTEGRAL OCCUPANCY SENSOR	
D CONTROLS TO SYSTEM FOR TIME OF		3500K, LED	LITHONIA	2BLT4-40L-ADSM-EZ1-LP835-NESPDT7ADCX		CEILING	2011		
			DAYBRITE	2EVO-G-43L-835-4-D-UNV-DIM-SWZG2					
			METALUX	24CZ2-40-UNV-L835-EL7W-CD1-SWPD1					
CE.	AEM	4000 LUMEN,	COLUMBIA	LCAT-24-40-HL-G-ED-U-NXES-ELL14	0-10V	RECESED GRID	29W	2x4 TROFFER. PROVIDE INTEGRAL OCCUPANCY SENSOR AND 7W EMERGENCY BATTERY.	
D THEN TURN OFF. AMMING):		3500K, LED	LITHONIA	2BLT4-40L-ADSM-EZ1-LP835-NESPDT7ADCX-EL7L		CEILING			
AMMING).			DAYBRITE	2EVO-G-43L-835-4-D-UNV-DIM-EMLED-SWZG2					
			METALUX	22CZ2-32HE-UNV-L835-SWPD1-SWPD1-CD1					
	В	3100 LUMEN,	COLUMBIA	LCAT-22-35-ML-G-ED-U-NXES	0-10V	RECESSED	23.5W	2x2 TROFFER. PROVIDE INTEGRAL OCCUPANCY SENSOR	
		3500K, LED	LITHONIA	2BLT4-33L-ADSM-EZ1-LP835-NESPDT7ADCX		CEILING GRID	20.011		
			DAYBRITE	2EVO-G-45L-835-2-D-UNV-DIM-SWZG2					
CE.			METALUX	22CZ2-32HE-UNV-L835-EL7W-CD1-SWPD1					
D THEN TURN OFF.	BEM	3100 LUMEN,	COLUMBIA	LCAT-22-35-ML-G-ED-U-NXES-ELL14	0-10V	RECESSED	23.5W	2x2 TROFFER, PROVIDE INTEGRAL OCCUPANCY SENSOR AND 7W EMERGENCY BATTERY.	
AMMING):	DEW	3500K, LED	LITHONIA	2BLT4-33L-ADSM-EZ1-LP835-NESPDT7ADCX-EL7L		CEILING GRID	20.000		
			DAYBRITE	2EVO-G-45L-835-2-D-UNV-DIM-EMLED-SWZG2					
			PRESCOLITE	LTR-6RD-SL-10L-DM1-NXE-LTR-6RD-T-SL-35K-8-MD-SS-WT-B24					
	C1	2000 LUMEN,	GOTHAM	EVO6-35/10-6AR-MD-LSS-MVOLT-GZ10-TRW-NPS80EZ	0-10V	RECESSED	22.1W	6" RECESSED CAN.	
		3500K, LED	PORTFOLIO	LD6B-10-D010-EU6B-1020-80-35-6LB-M-0-H-HB26		CEILING GRID	22.100		
			CALCULITE	6R-N-C6L-10-8-35-M-Z10-U-C6-R-DL-CL					
ED TIMES.			PRESCOLITE	LTR-6RD-H-ML-DM1-NXE-EMR-LTR-6RD-T-ML-35K-8-MD-SS-WT-B24					
ANCY	C1EM	2000 LUMEN,	GOTHAM	EVO6-35/20-6AR-MD-LSS-MVOLT-GZ10-TRW-NPS80EZ	0-10V	RECESSED	22.1W	6" RECESSED CAN. PROVIDE REMOTE TEST SWITCH AND 10W EMERGENCY BATTERY.	
NO AREA OCCUPANCY	OTEM	3500K, LED	PORTFOLIO	LD6B-20-D010-EU6B-1020-80-35-6LB-M-0-H-HB26		CEILING GRID	22.100		
AMMING):			CALCULITE	6R-N-EM-C6L-20-8-35-M-Z10-U-C6-R-DL-CL					
	00	1100 LUMEN,	PRESCOLITE	LTR-4RD-H-SL-DM1-NXE-LTR-4RD-T-SL-35K-8-MD-SS-WT-B24		RECESSED			
	C2	3500K, LED	GOTHAM	EVO4-35/10-4AR-MWD-LSS-MVOLT-GZ1-NPS80EZ	0-10V	CEILING GRID	12.7W	4" RECESSED CAN. PROVIDE INTEGRAL OCCUPANCY SENSOR.	
				LD4B-10-D010-EU4B-1020-80-35-4LB-M-1-H-HB26					
			CALCULITE PRESCOLITE	4R-N-C4L-10-8-35-M-Z10-U-C4-R-DL-CL					
				LTR-4SQD-H-SL-DM1-NXE-LTR-4SQD-T-SL-35K-8-MD-SS-WT-B24		55050055			
	C2EM	1100 LUMEN, 3500K, LED	GOTHAM PORTFOLIO		0-10V	RECESSED CEILING GRID	12.7W	4" RECESSED SQUARE CAN. PROVIDE INTEGRAL OCCUPANCY SENSOR. PROVIDE PORT TO COMMUNICATE WITH ROOM FIXTURES WITH INTEGRAL SENSORS	
			CALCULITE	C4-S-A-C4L-15-8-35-M-Z10-U-C4-S-D-LN-M-CL					
			ALIGHT						
			ALIGHT	ACL3ST-4-C75-35K-U-HE-S-B-NAIR-OPF					
	F1	2000 LUMEN, 3500K, LED			0-10V	SUSPENDED 10' AFF	40	4' X 2.25" SUSPENDED LINEAR	
			ALIGHT	ACL3ST-4-C75-35K-U-HE-S-B-NAIR-OPF-E_					
		2000 LUMEN,				SUSPENDED 10'			
	F1EM	3500K, LED			0-10V	AFF	40	4' X 2.25" SUSPENDED LINEAR. PROVIDE EMERGENCY 12W BATTERY.	
			ALIGHT	ACL5-T-LS-35-U-HE-X-W-D					
		2000 LUMEN,				RECESSED			
	F2	3500K, LED			0-10V	CEILING GRID	40	4' X 2.25" RECESSED LINEAR	
			ALIGHT	ACL5-T-LS-35-U-HE-X-W-D-E_					
	F2EM	2000 LUMEN, 3500K, LED			0-10V	RECESSED CEILING GRID	40	4' X 2.25" RECESSED LINEAR. PROVIDE EMERGENCY 12W BATTERY.	
		3500K, LED				CEILING GRID			
			LIGHTWAY	FWLA-96-LED-08C-3-P3-CSA-25-3K					
	G	2589 LUMEN, 2700K, LED			0-10V	MOUNT ON AWNING	29.6	2' SIGN FLOODLIGHT	
		,							
			EVENLITE	CHY-AB-CN					
			LITHONIA	LESG-ELN				DIE CAST ALUMINUM, BLACK HOUSING WITH BRUSHED ALUMINUM FACE, AND GREEN	
	X	LED	SURE-LITES	CX7G		UNIVERSAL	1W	LETTERS.	
			COMPASS	CCESGE					
	L	I			I	1			1

RELAY RATING

30A

30A

				NE	VV PA	ANEL	. "LCP"					
	IMMER RELAY					1						
DIMMER/ RELAY		DESCRIPTION	PANEL	BOARD		LOAD			NOTES			
#	ZONE		NAME	CIR #	LOAD	TYPE	DIMMABLE	ON/OFF SWITCHING	LIGHTING CONTROL STATION			
1	1	EXTERIOR CAN LIGHTS			67W	LED		х	ASTROCLOCK			
2	2	EXTERIOR SIGN LIGHT			18W	LED		Х	ASTROCLOCK			
3		SPARE										
4		SPARE										



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Project Manager	Discipline Lead
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Designer	Reviewer
J BOIK	A ROBINSON
Date Issued	Project Number
01/31/2023	16600.00

Sheet Name

SCHEDULES

E801

A.I.C. RATIN BRKR SPAC MTG./NEMA 2 A B C C 2 A B C C 2 A B C C 2 A C C 2 A C C 2 A B C C 2 A B C C 2 A C C 2 A C C 2 C C 2 C C C C C C	CE:	LTS 5.1 5.1 1.25	REC 10. # 10.	1.6 #1 .3
MTG./NEMA P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P P	\#: 	5.1 5.1	10. # 10.	1.6 #1 .3
P PH 2 A - B - C 2 A - B - C 2 A - B - C 2 A - C 2 A - B - C 2 A - B - C 2 A		5.1 5.1	10. # 10.	1.6 #1 .3
2 A - B - C 2 A - B - C 2 A - B - C 2 A - B - C 2 A - B - C		5.1 5.1	10. # 10.	1.6 #1 .3
2 A - B - C 2 A - B - C 2 A - B - C 2 A - B - C 2 A - B - C		5.1 5.1	10. # 10.	#1 .3
- B - C 2 A - B - C 2 A - B - C 2 A - B - C 2 A - B - C 2 A - B - C 2 A		5.1 5.1	10. # 10.	1.6 #1 .3
- C 2 A - B - C 2 A - B - C 2 A - B - C 2 A - B - C 2 A		5.1 5.1	10. # 10.	1.6 #1 .3
2 A - B - C 2 A - B - C 2 A - C 2 A - B		5.1 5.1	10. # 10.	6 #1 3
B - C 2 A - B - C 2 A - B - B		5.1 5.1	10. # 10.	6 #1 3
2 A - B - C 2 A - B		5.1 5.1	10. # 10.	6 #1 3
2 A - B - C 2 A - B		5.1 5.1	10. # 10.	6 #1 3
- C 2 A - B	1.0	5.1	# 10.	#1 .3
2 A - B	1.0	5.1	# 10.	#1 .3
- B			10.	.3
		1.25	1.	
- C		1.25	1.	~
				.0
	1			
	1			

		VOLTS:		240	MAINS	RATING		A.I.C. R	ATIN	G:				LOCATIO	DN:					
	EX. A	PHASE:		1	MCB:			BRKR S	SPACI	E:				SOURCE	Ξ:					
		WIRE:		3	MLO:	200		MTG./N	EMA	#:				FEEDER	l:					
	LOAD	LOAD												LOAD					LOAD	
СКТ	DESCRIPTION	LTS	REC	MOTOR	OTHER	КІТ	OCPD	P	СКТ	PH	СКТ	Р	OCPD	LTS	REC	MOTOR	OTHER	КІТ	DESCRIPTION	CK
1	E. MAIN OFFICE		720				20	1	1	Α	2	1	20	720					E. 103 LIGHTS	5 2
3	E. 101 LIGHTS	720					20	1	3	В	4	1	20	720					E. 101 LIGHTS	6 4
5	E. 102 LIGHTS	720					20	1	5	Α	6	1	20	720					E. 102 LIGHTS	6 6
7	E. MASTER CLOCK				360		20	1	7	В	8	1	20	720					E. LOBBY + OUTSIDE	8
9	E. CLINIC EAST		720				20	1	9	Α	10	1	20	720					E. MAIN OFFICE	10
11	E. WEST GYM OUTLET		180				20	1	11	В	12	1	20						E. ROOM 10) 12
13	E. OFFICE COMPUTER		720				20	1	13	А	14	1	20			720			E. HEATING	G 14
15	E. OFFICE RECEP.		720				20	1	15	В	16	1	20	720					E. 103 LIGHTS	5 10
17	E. LOUNGE		720				20	1	17	А	18	1	20		180				E. JANTIORS CLOSET RECEP	18
19	E. LOUNGE/COFFEE/FRIDGE		1200				20	1	19	В	20	1	20			180			E. FANS	3 20
21	E. SAFE RECEP		180				20	1	21	А	22	1	20		1200				NEW COPIER	22
23	E. SAFE RECEP		280				20	1	23	В	24	1	20		1200				NEW PRINTER	24
25	E. CLINIC RECEP		180				20	1	25	Α	26	1	20		180				E. N. WALL OF GYM RECEP	26
27	E. CLINIC RECEP		180				20	1	27	В	28	1	20		720				NEW FURNITURE POWER	28
29	NEW FURNITURE POWER		720				20	1	29	Α	30	1	20		720				NEW DOOR HARDWARE	30
31	NOT USEABLE						20	1	31	В	32	1	20						NOT USEABLE	32
33	NOT USEABLE						20	1	33	Α	34	1	20						NOT USEABLE	34
35	NOT USEABLE						20	1	35	В	36	1	20						NOT USEABLE	3
37	NOT USEABLE						20	1	37	Α	38	1	20						NOT USEABLE	38
39	NOT USEABLE						20	1	39	В	40	1	20						NOT USEABLE	40
41	NOT USEABLE						20	1	41	А	42	1	20						NOT USEABLE	4

SUBTOTAL CONNECTED KVA										
LTS	REC	MOTOR	OTHER	KIT	TOTAL					
2.9	6.2	0.7	0.0	0.0	9.8					
2.9	4.5	0.2	0.4	0.0	7.9					
		0.0			0.0					
	LTS 2.9	LTS REC 2.9 6.2	LTS REC MOTOR 2.9 6.2 0.7 2.9 4.5 0.2	LTS REC MOTOR OTHER 2.9 6.2 0.7 0.0 2.9 4.5 0.2 0.4	LTS REC MOTOR OTHER KIT 2.9 6.2 0.7 0.0 0.0 2.9 4.5 0.2 0.4 0.0					

LATION	R CALCU	FEEDER	IMARY &	DAD SUN	LC			
	TOTAL	SPARE	SUBTOT	KIT	OTHER	MOTOR	REC	LTS
CONNECTED KVA		25%	17.7	0.0	0.4	0.9	10.7	5.8
DEMAND FACTOR				1.0	1.0	1.0	#1	1.0
DEMAND KVA	21.7	4.3	17.4	0.0	0.4	0.9	10.4	5.8
DEMAND AMPS	90.5							
CONTINUOUS/NONCONT FACTOR		1.0		1.0	1.0	1.0	1.0	1.25
MIN. OVERCURRENT DEVICE AMPS	96.5							

RECEPTACLE DEMAND FACTOR:

#1: 100% FIRST 10 KVA + 50% REMAINING BOLD TEXT: PROVIDE NEW BREAKER

	LOCATI	ON:				
	SOURC	E:				
	FEEDER	R:				
				SUBTOT	AL CONI	NECTED KVA
	LTS	REC	MOTOR	OTHER	KIT	
	2.9	6.1	0.0	36.0	0.0	PHASE A CONNECTED KVA
	2.2	4.5	0.0	36.4	0.0	PHASE B CONNECTED KVA
	0.0	0.0	0.0	0.0	0.0	PHASE C CONNECTED KVA
			0.0			25% OF LARGEST MOTOR
	L	OAD SUI	MMARY &	FEEDER	CALCU	_ATION
R	OTHER	KIT	SUB	SPARE	TOTAL	
0.0	72.4	0.0	88.1	25%		CONNECTED KVA
4 0	1.0	1.0				DEMAND FACTOR

.0	1.0	1.0				DEMAND FACTOR
0.0	72.4	0.0	87.8	22.0	109.8	DEMAND KVA
					264.0	DEMAND AMPS
.0	1.0	1.0		1.0		CONTINUOUS/NONCONT FACTOR
					267.1	MIN. OVERCURRENT DEVICE AMPS

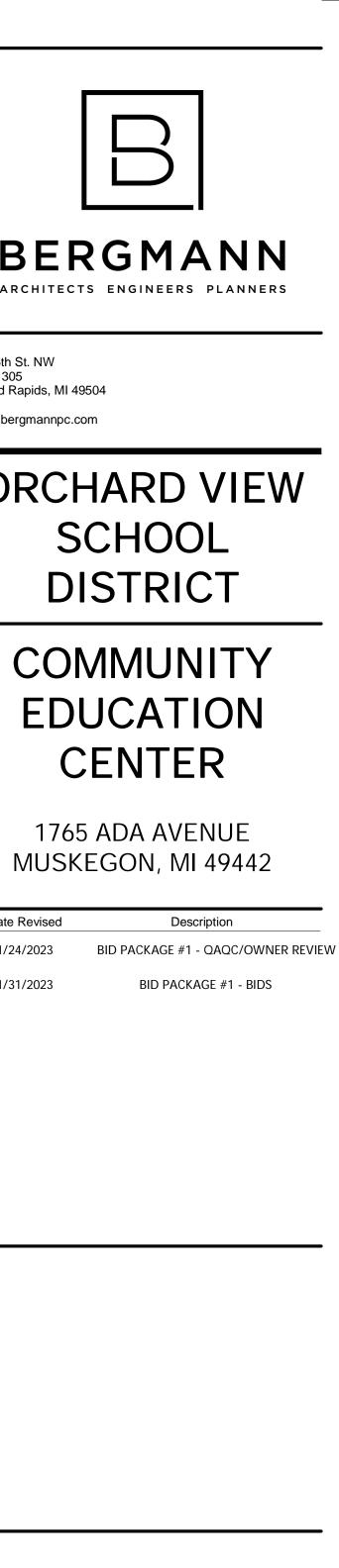
		VOLTS:		240	MAINS R	ATING:		A.I.C. I	RATING:	
	EX. MDP	PHASE:		3	MCB:	800			SPACE:	
		WIRE:		4	MLO:			MTG./I	NEMA #:	
	LOAD	LOAD								
СКТ	DESCRIPTION	LTS	REC	MECH	OTHER	КІТ	OCPD	Р	PH	
1			4000				200	2	A	
2	COMPUTER PANEL 1		4000						В	
3									С	
4			1080	14000					A	
5	NEW RPA			14000					В	
6				14000					С	
7			1000	4000			200	3	А	LTS
8	BOILER PANEL 1		1000	4000					В	Ę
9			1000	4000					С	1.0
10		2900.0	6100.0	0.0	3600.0		400	3	A	Ę
11	MDPB	2200.0	4500.0	0.0	3640.0				В	
12									С	1.
13			4000				100	3	A	
14	COMPUTER PANEL		4000						В	
15			4000						С	
16						4000	200	3	A	
17	KITCHEN SERVICE					4000			В	
18						4000			С	
19							100	3	A	
20	BUS GARAGE								В	
21									С	
22									A	
23	SPACE								В	
24									С	
25							200	3	A	
26	JANITOR CLOSET PANEL								В	
27									С	
28							200	3	A	
29	3 STORY BUILDING								В	
30									С	
31			1000	4000			200	3	А	
32	BOILER PANEL 2		1000	4000					В	
33			1000	4000					С	
34									A	
35									В	
36									С	

		VOLTS:		240	MAINS	RATING:		A.I.C. I	RATIN	G:			
	NEW RPA	PHASE:		3	MCB:			BRKR					
		WIRE:		4	MLO:	200		MTG./I					
	LOAD	LOAD											
СКТ	DESCRIPTION	LTS	REC	MOTOR	OTHER	КІТ	OCPD	Р	СКТ	PH	скт	Р	0
1				997			20	3	1	A	2	2	
3	NEW RTU-1			997			-		3	В	4	-	<u> </u>
5	-			997			-	-	5	С	6	2	
7				1932			25	2	7	A	8	-	
9	NEW HPCU-7			1932			-	-	9	В	10	2	;
11				1932			25	2	11	С	12	-	
13	NEW HPCU-8			1932			-	-	13	Α	14	2	
15	CDADE						20	2	15	В	16	-	
17	SPARE						-	-	17	С	18	2	
19	SPARE						30	2	19	A	20	-	
21	SPARE						-	-	21	В	22	2	
23	NEW HCPU CONV RCPTS		1080				20	1	23	С	24	-	
25	SPACE								25	Α	26	1	
27	SPACE								27	В	28		
29	SPACE								29	С	30		
31	SPACE								31	A	32		
33	SPACE								33	В	34		
35	SPACE								35	С	36		
37	SPACE								37	A	38		
39	SPACE								39	В	40		
41	SPACE								41	С	42		
								_					
	S	UBTOTAL CON	INECTE	D KVA									
		LTS	REC	MOTOR	OTHER	КІТ	TOTAL			Ľ	TS	REC	МО
	PHASE A CONNECTED KVA	0.0	0.0	10.6	0.5	0.0	11.1				0.0	1.1	
	PHASE B CONNECTED KVA	0.0	0.0	10.4	0.0	0.0	10.4				1.25	#1	
	PHASE C CONNECTED KVA	0.0	1.1	9.7	0.0	0.0	10.8	1			0.0	1.1	
	25% OF LARGEST MOTOR			0.0				1					

RECEPTACLE DEMAND FACTOR:

#1: 100% FIRST 10 KVA + 50% REMAINING PHASE "B" - NOT USEABLE

			СНЕ	DUL									
RKR	RATIN SPACI NEMA	E:				LOCATIC SOURCE FEEDER	:	BOILER F					
P	PH					LTS	REC	MOTOR	OTHER	KIT	NECTED KVA		
2	A B	-			-	2.9	17.2 14.5	22.0 22.0	3.6 3.6	4.0	PHASE A CONNECT PHASE B CONNECT	ED KVA	
	C A B	-				0.0	6.0	22.0 0.0	0.0		PHASE C CONNECT 25% OF LARGEST M		
3	C A		LTS	REC I	MOTOR	LC	AD SUM	IMARY & SUB	FEEDER SPARE	CALCUL TOTAL	ATION		
	B		5.1	37.7 #1	66.0 1.0	7.2 1.0	12.0 1.0	128.0	25%		CONNECTED KVA DEMAND FACTOR		
3	A B		5.1	23.8	66.0	7.2	12.0	114.2	28.5	343.3	DEMAND KVA DEMAND AMPS		
3	C A		1.25	1.0	1.0	1.0	1.0		1.0		CONTINUOUS/NONG		
3	B C A	-											
	B	-											
3	A B												
	C A	-											
3	B C A	-											
	B	-											
3	A B												
3	C A	-											
	B C A	-											
	B	-											
		·							· · · · ·]
;	s C F	1 E D	ULE	LOCATI			ROOM						
				SOURC FEEDEF		MDP							
1	СКТ 2	P 2	OCPD 30	LOAD LTS	REC	MOTOR 924	OTHER	КІТ			DAD RIPTION	СКТ	
	2 4 6	2 - 2	- 30 30			924					NEW HPCU-	4	
, , ,	8 10	- 2	- 30			2316					SPAR NEW HPCU-	E 8	
;	12 14	- 2	- 30			2316 2316					NEW HPCU-	12	
	16 18	- 2	- 35			2316 2496					NEW HPCU-	16 5	
	20 22	- 2	- 25			2496 1932					NEW HPCU-	20 6 22	
	24 26 28	- 1	- 20			1932	500)			NEW LC	24 P 26	
	28 30 32										SPAC SPAC SPAC	E 30	
_	32 34 36										SPAC SPAC SPAC	E 34	
	38 40										SPAC SPAC	E 38 E 40	
>	42				ייים אר			R CALCU			SPAC	E 42	
LT	S 0.0	REC 1.1	MOTOR 30.7	OTHER	КІТ	SUBTOT	SPARE	TOTAL	CONNECT	ED KVA			
	1.25 0.0	#1 1.1	1.0 30.7	1.0	1.()		40.3	DEMAND DEMAND	FACTOR			
	1.25	1.0	1.0		1	-	1.0	97.1	DEMAND	AMPS	CONT FACTOR		
				•				97.0	MIN. OVE	RCURREN	T DEVICE AMPS		



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