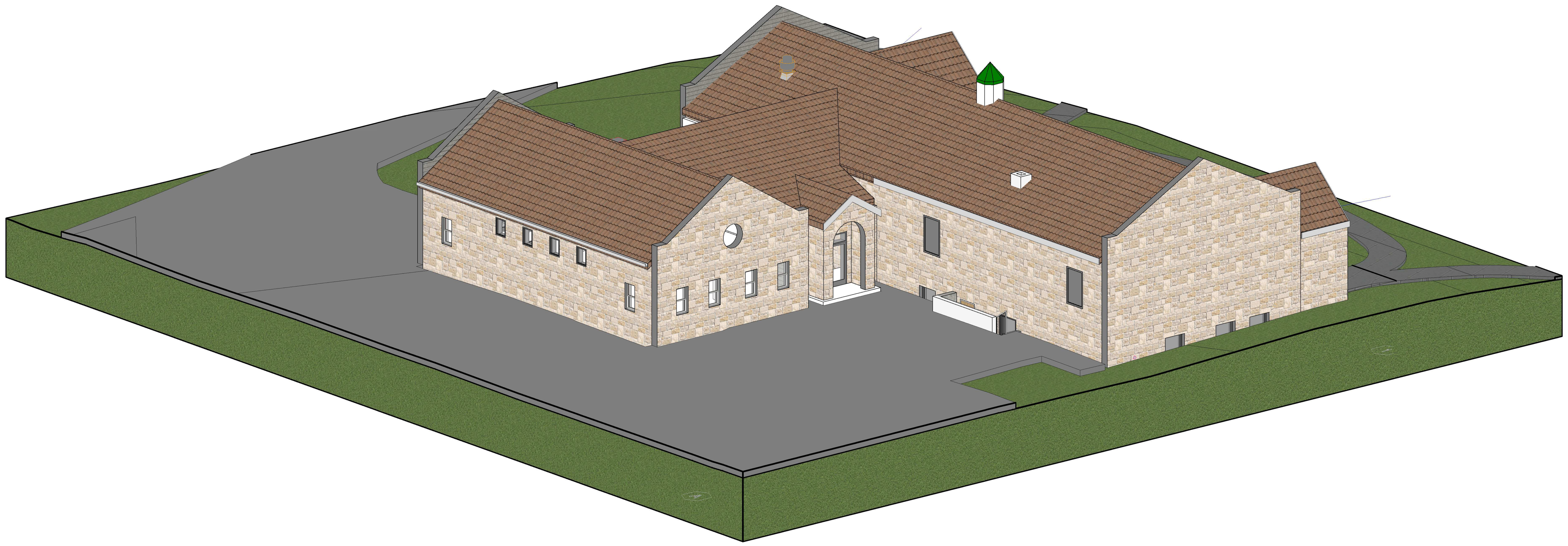
TOWN OF BAILEYS HARBOR
GEOTHERMAL DESIGN

2392 County F
Baileys Harbor, WI 54202

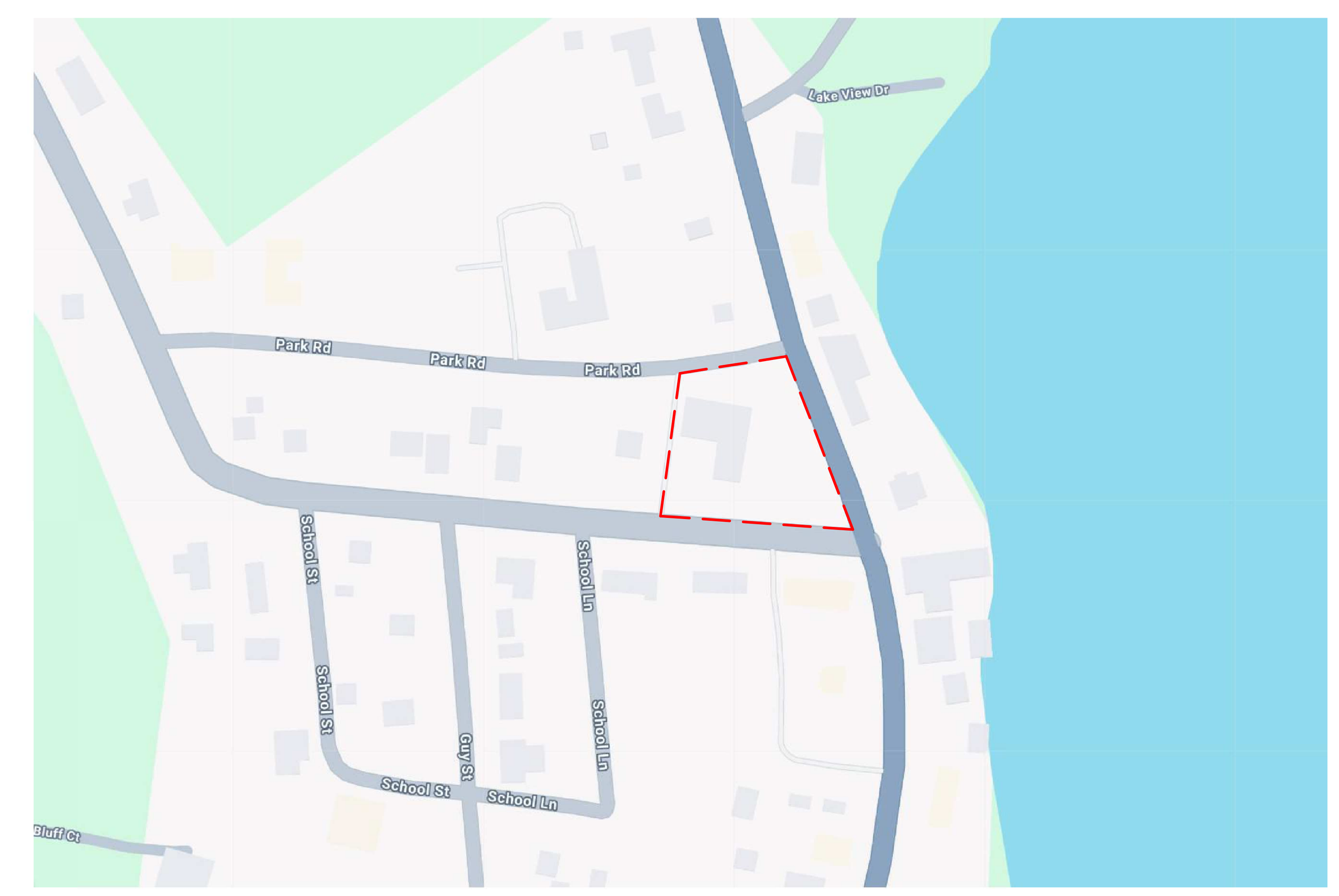
HGA
333 EAST ERIE STREET
MILWAUKEE, WISCONSIN 53202
TELEPHONE: 414.278.8200



NOTE: RENDERING NOT FOR CONSTRUCTION USE

HGA COMMISSION NUMBER: 5410-001-00
08/07/25 | CONSTRUCTION DOCUMENTS

MAP: 2392 COUNTY F, BAILEYS HARBOR, WI 54202



PROJECT INFORMATION

PROJECT NAME: BAILEYS HARBOR TOWN HALL BUILDING GEOTHERMAL DESIGN

PROJECT DESCRIPTION: DESIGN OF A NEW GEOTHERMAL SYSTEM TO REPLACE THE AGING MECHANICAL SYSTEM.

APPLICABLE CODES:
IBC - THE INTERNATIONAL BUILDING CODE - 2015; SUBJECT TO MODIFICATION IN WI ADMINISTRATIVE CODE SPS 362
IEBC - THE INTERNATIONAL EXISTING BUILDING CODE - 2015 EDITION WITH WI AMENDMENTS
IECC - THE INTERNATIONAL ENERGY CONSERVATION CODE - 2015; SUBJECT TO MODIFICATIONS SPECIFIED IN THE WI ADMINISTRATIVE CODE SPS 363
ASHRAE 90.1 - 2013 REQUIRED / WI ADMINISTRATIVE CODE (ASHRAE 90.1-2016 PER DOA SUSTAINABILITY GUIDELINES)
ICC - A117.1 - 2009
NFPA 70, NATIONAL ELECTRICAL CODE 2014 EDITION
INTERNATIONAL FIRE CODE - 2015 WITH WI AMENDMENTS
IMC - 2015 WITH WI AMENDMENTS SPS 363

OCCUPANCY:
BUSINESS (B) - NO CHANGE
ASSEMBLY (A-3) - AUDITORIUM - NO CHANGE

PROPOSED USE:
BUSINESS (B) - NO CHANGE
ASSEMBLY (A-3) - AUDITORIUM - NO CHANGE

PROJECT ADDRESS:
BAILEYS HARBOR TOWN HALL
2392 COUNTY F
BAILEYS HARBOR, WI 54202

REQUIRED FIRE SEPARATION:
NO CHANGE

HEIGHT OF NEW BUILDING:
27'-0" - NO CHANGE

PROJECT FLOOR AREA:
11,581 SQUARE FEET - NO CHANGE

LEVEL OF ALTERATION:
LEVEL 2

CONTACT INFORMATION

OWNER: BAILEYS HARBOR — CONTACT: TOWN CLERK HALEY ADAMS — PHONE: (920) 839-9509 — EMAIL: ADMIN@BAILEYSHARBORWI.GOV

ENGINEERING: HAMMEL, GREEN AND ABRAHAMSON — CONTACT: SVEIN MORNER — PHONE: (608) 554-5342 — EMAIL: SMORNER@HGA.COM

ARCHITECT: HAMMEL, GREEN AND ABRAHAMSON — CONTACT: LYSSA OLKER — PHONE: (414) 278-3343 — EMAIL: LOLKER@HGA.COM

CIVIL: HAMMEL, GREEN AND ABRAHAMSON — CONTACT: LEAH KNAPP — PHONE: (414) 278-3397 — EMAIL: LKNAPP@HGA.COM

ELECTRICAL: HAMMEL, GREEN AND ABRAHAMSON — CONTACT: KEVIN STANDLEE — PHONE: (414) 278-3483 — EMAIL: KSTANDLEE@HGA.COM

MECHANICAL: HAMMEL, GREEN AND ABRAHAMSON — CONTACT: AMANDA WENDLING — PHONE: (608) 554-5344 — EMAIL: AWENDLING@HGA.COM

STRUCTURAL: HAMMEL, GREEN AND ABRAHAMSON — CONTACT: GARRETT CORBETT — PHONE: (414) 278-3531 — EMAIL: GCORBETT@HGA.COM

GEOTHERMAL: HAMMEL, GREEN AND ABRAHAMSON — CONTACT: ANDY DEROCHER — PHONE: (608) 554-5330 — EMAIL: ADEROCHER@HGA.COM

DRAWING INDEX

8/7/2025 4:54:26 PM

A	
A/E	ARCHITECT/ENGINEER
ACOUS	ACOUSTICAL
AD	ACCESS DOOR
ADA	THE AMERICANS WITH DISABILITIES ACT
ADD	ADDENDUM
ADDL	ADDITIONAL
ADJ	ADJUSTABLE
ADJC	ADJACENT
AED	DEFIBRILATOR
AF	ACCESS FLOOR
AFF	ABOVE FINISH FLOOR
AL	ALUMINUM
ALT	ALTERNATE
AP	ACCESS PANEL
APPROX	APPROXIMATE(LY)
ARCH	ARCHITECT(URAL)
ASC	ABOVE SUSPENDED CEILING
ASPH	ASPHALT
B	
BD	BOARD
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
BO	BOTTOM OF
BOT	BOTTOM
BRKT	BRACKET
BS	BACKSPLASH
BSMT	BASEMENT
BTW	BETWEEN
BYND	BEYOND
C	
CAB	CABINET
CEN	CENT(ER) (TRAL)
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
CG	CORNER GUARD
CIP	CAST IN PLACE
CJ	CONTROL/CONSTRUCTION JOINT
CL	CENTER LINE
CLG	CEILING
CLR	CLEAR(ANCE)
CLR	CLEAR
CMPST	COMPOSITE
CMU	CONCRETE MASONRY UNIT
CNTFG	CENTRIFUGE
CNTR	COUNTER
CO	CASED OPENING; CLEAN OUT
COL	COLUMN
CONC	CONCRETE
CONN	CONNEC(TION)
CONST	CONSTRUCTION
CONT	CONTINU(E) (OUS) (ATION)
CONT	CONTINUOUS
CORR	CORRIDOR
CR	CARD READER
CYL	CYLINDER
D	
D	DEEP, DEPTH
DBL	DOUBLE
DED	DEDICATED
DEG	DEGREE
DEMO	DEMO(LISH) (LITION)
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DISP	DISPENSER
DN	DOWN
DO	DATA OUTLET
DR	DOOR
DWG(S)	DRAWING(S)
E	
(E), EXIST	EXISTING
E	ELEVATOR
EA	EACH
EIFS	EXTERIOR INSULATION FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRIC(AL)
ELEV	ELEVATOR
EMER	EMERGENCY
EMI	ELECTROMAGNETIC INTERFERENCE
ENCL	ENCLOSURE
EO	ELECTRICAL OUTLET
EOS	EDGE OF SLAB
EP	ELECTRICAL PANEL
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EPRF	EXPLOSION PROOF
EQ	EQUAL
EQUIP	EQUIPMENT
ETR	EXISTING TO REMAIN
EXCL	EXCLUD(E) (ED) (ING)
EXG	EXISTING
EXH	EXHAUST
EXP	EXPAN(D) (SION)
EXT	EXTERIOR
EXTR	EXTERIOR
F	
F/F	FACE TO FACE
FA	FIRE ALARM
FACP	FIRE ALARM PANEL
FAS	FASTENE(D) (ER)
FB	FLAT BAR
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FLOOR FINISH
FHC	FIRE HOSE CABINET
FHP	FULL HEIGHT PARTITION
FIN	FINISH
FL	FLASHING
FLR	FLOOR(ING)
FO	FACE OF
FOC	FACE OF CONCRETE

FOW	FACE OF WALL
FP	FILLER PANEL
FSTR	FASTEN(ED) (ER)
FT	FOOT, FEET
FTG	FOOTING
G	
G	GAS
GA	GAUGE
GALV	GALVANIZED
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GL	GLASS
GR	GRADE
GWB	GYPSUM WALL BOARD
H	
H	HIGH, HEIGHT
HB	HOSE BIB
HD	HEAD
HDW	HARDWARE
HDWD	HARDWOOD
HGT	HEIGHT
HM	HOLLOW METAL
HMD	HOLLOW METAL DOOR
HO	HOLD OPEN
HORIZ	HORIZONTAL
HP	HIGH POINT
HR	HANDRAIL(S)
HT	HEIGHT
HVAC	HEATING, VENTILATION, AIR CONDITIONING
HYDR	HYDRAULIC
I	
ID	INSIDE DIAMETER/DIMENSION
IN	INCH(ES)
INCL	INCLU(DE) (DED) (DING) (SIVE)
INSUL	INSULATE) (ED)
INT	INTERIOR
INTR	INTERIOR
J	
JAN	JANITOR
JST	JOIST
JT	JOINT
K	
KOP	KNOCKOUT PANEL
KPL	KICK PLATE
KS	KNEE SPACE
L	
L	ANGLE (STRUC SHAPE)
LAB	LABORATORY
LAV	LAVATORY
LB	POUND
LENGTH	LONG, LENGTH
LF	LINEAR FOOT
LFFEET	LINEAL FOOT, FEET
LH	LEFT HAND
LHR	LEFT HAND REVERSE
LKR	LOCKER
LNTL	LINTEL
LT	LIGHT
LTG	LIGHTING
LTWT	LIGHTWEIGHT
LVL	LEVEL
LVR	LOUVER
M	
MACH	MACHINE
MAINT	MAINTENANCE
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MB	MARKERBOARD
MECH	MECHANICAL(LY)
MED	MEDIUM
MEMB	MEMBRANE
MET	METAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MT(D)	MOUNT(ED)
MTL	METAL
MUL	MULLION
MVBL	MOVABLE
N	
N	NORTH; NITROGEN
N/A	NOT APPLICABLE
NEC	NECESSARY
NIC	NOT IN CONTRACT
NO2	NITROUS OXIDE
NOM	NOMINAL
NTS	NOT TO SCALE
O	
O	OXYGEN
O2	OXYGEN
OC	ON CENTER
OD	OUTSIDE DIAMETER/DIMENSION
OF	OUTSIDE FACE
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFF	OFFICE
OFOI	OWNER FURNISHED, OWNER INSTALLED
OFVI	OWNER FURNISHED, VENDOR INSTALLED
OH	OVERHEAD
OH	OPPOSITE HAND
OHSC	OVERHEAD SERVICE CARRIER
OPG	OPENING
OPP	OPPOSITE
OPT	OPTION(AL)
P	
PA	POWER ASSIST
PAR	PARALLEL
PART	PARTICLE PARTIAL
PB	PANIC BAR
PC	PRECAST
PERF	PERFORATED
PERIM	PERIMETER
PGBD	PEG BOARD

PL	PLATE
PLAM	PLASTIC LAMINATE
PLBG	PLUMBING
PLYWD	PLYWOOD
PNEU	PNEUMATIC
PNL	PANEL
PR	PAIR
PRCST	PRECAST
PREFAB	PREFABRICATED
PTD	PAINTED
PTN	PARTITION
PTS	PNEUMATIC TUBE STATION
Q	
QTY	QUANTITY
R	
R	RADIUS; RADII; RISER (STAIR)
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REC	RECESSED
RECP	RECEPTACLE
REF	REFER(ENCE)
REFR	REFRIGERATOR
REINF	REINFORC(E) (ED) (ING) (EMENT)
REQD	REQUIRED
RESIL	RESILIENT
REV	REVISE) (ED) (ION)
RH	RIGHT HAND
RHR	RIGHT HAND REVERSE
RM	ROOM
RO	ROUGH OPENING
S	
SCHED	SCHEDULE
SECT	SECTION
SF	SQUARE FOOT/FEET
SHT	SHEET(ING)
SHTG	SHEATHING
SIM	SIMILAR
SKLT	SKYLIGHT(S)
SPEC(S)	SPECIFICATION(S)
SPK	SPEAKER
SS	STAINLESS STEEL
ST	STREET
STAG	STAGGER
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUC	STRUCTUR(E) (AL)
SUSP	SUSPENDED
SYM	SYMMETR(Y) (ICAL)
T	
T	TREAD
T&G	TONGUE AND GROOVE
T/D	TELEPHONE DATA OUTLET
TEL	TELEPHONE
TEMP	TEMPORARY
TER	TERRAZZO
THK	THICKNESS
TME	TO MATCH EXISTING
TO	TOP OF
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE
TOS	TOP OF STEEL
TV	TELEVISION
TYP	TYPICAL
U	
UC	UNDER CABINET
UCL	UNDER CABINET LIGHTING
UNEX	UNEXCAVATED
UNFIN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
UR	URINAL
UV	ULTRAVIOLET
V	
VAC	VACUUM
VAR	VAR(Y) (IES) (IATION)
VCT	VINYL COMPOSITION TILE
VEN	VENEER
VERT	VERTICAL
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
W	
W	WIDE, WIDTH
W/	WITH
W/O	WITHOUT
WC	WATER CLOSET
WD	WOOD
WP	WATERPROOFING
WSCT	WAINSCOT
WT	WEIGHT
X	
XP(D)	EXPOSE(D)

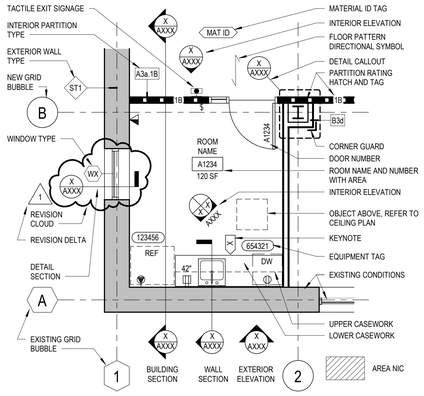
SPECIAL SYMBOLS			
&	AND	#	NUMBER
∠	ANGLE(STRUC SHAPE)	/	PER
@	AT	⊥	PERPENDICULAR
℄	CENTERLINE	±	PLUS/MINUS
ø	DIAMETER		

GENERAL NOTES

A. THESE GENERAL NOTES APPLY TO THE CONSTRUCTION DOCUMENTS AND SHALL GOVERN UNLESS NOTED OTHERWISE BY GENERAL NOTES OR KEYNOTES ON SPECIFIC SHEETS.
B. COORDINATE ALL PROJECT PHASING WITH OWNER OR AS SPECIFIED AND/OR SHOWN ON THE DRAWINGS.
C. PROVIDE A SAFE MEANS OF EGRESS THROUGH AND/OR AROUND THE BUILDING AND SITE PER APPLICABLE CODES AT ALL TIMES DURING THE CONSTRUCTION PROCESS. MINIMIZE DISRUPTION TO ADJACENT AREAS/FLOORS AS MUCH AS POSSIBLE.
D. MINIMIZE NOISE TO LEVEL ACCEPTABLE WITH THE OWNER. SCHEDULE TASKS CREATING EXCESSIVE NOISE OR NEAR SENSITIVE AREAS WITH THE OWNER.
E. PROVIDE DUST CONTROL BETWEEN CONSTRUCTION AREAS AND OCCUPIED AREAS AT ALL TIMES AS SPECIFIED.
F. NOTIFY ARCHITECT PROMPTLY IF INFORMATION SHOWN IN ONE CONSTRUCTION DOCUMENT CONFLICTS WITH INFORMATION SHOWN ON ANOTHER.
G. NOTIFY ARCHITECT PROMPTLY IF CONSTRUCTION DOCUMENTS ARE INCONSISTENT WITH THE CURRENT APPLICABLE CODES AND REGULATIONS.
H. NOTIFY ARCHITECT PROMPTLY IF ANY EXISTING CONDITIONS CONFLICT WITH THE CONSTRUCTION DOCUMENTS.
I. STRUCTURAL STEEL MEMBER PROFILES AS INDICATED ON ARCHITECTURAL DRAWINGS MAY VARY FROM ACTUAL PROFILES AND SIZES INDICATED ON THE STRUCTURAL DRAWINGS WHICH SHALL GOVERN.
J. COORDINATE EXACT LOCATIONS OF LIGHT FIXTURES, SPEAKERS, SMOKE DETECTORS, EXIT LIGHTS, ACCESS PANELS, SPRINKLER HEADS, HVAC DUCTS, DIFFUSERS, REGISTERS, AND OTHER CEILING ITEMS WITH MECHANICAL, ELECTRICAL AND OTHER TRADES. NOTIFY ARCHITECT PROMPTLY IF ANY LOCATIONS CONFLICT WITH ARCHITECTURAL REFLECTED CEILING PLANS.
K. REFER TO ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR FLOOR, WALL AND CEILING OPENINGS. ALL OPENINGS SHALL BE CUT AND PATCHED AS REQUIRED BY EACH DISCIPLINE OR TRADE REQUIRING THE OPENING UNLESS NOTED OTHERWISE IN THE CONSTRUCTION DOCUMENTS. PATCHING IS TO BE IN CONFORMANCE WITH APPLICABLE CODES.
L. WOOD BLOCKING WITHIN THE WALL SYSTEM SHALL BE FIRE RETARDANT TREATED. ALL EXTERIOR WOOD BLOCKING SHALL BE MOISTURE TREATED. WOOD MAY NOT BE USED IN AN EXPOSED LOCATION UNLESS IT IS A FINISH MATERIAL IN A NON-COMBUSTIBLE ASSEMBLY OR AS SPECIFIED.

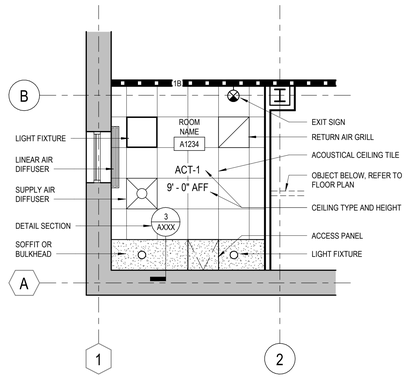
MATERIAL ID SCHEDULE

Revision	Spec	Code	Description
	095100	**ACT**	**ACOUSTIC CEILING TILE**
	095100	ACT-1	Armstrong Ultima #1995 12"x72" Beveled Tegular for 15/16 grid
	095100	ACT-2	Armstrong #3250 Optima tegular, 24" x 48" x 1" Edge: Square Tegular edge Color: White
	092900	**GYP BD**	**GYPSUM BOARD**
	092900	GYP BD-1	5/8" fire-rated type X
	099000	**PT**	**PAINT (Colors)**
	099000	PT-1	General Paint Color Manufacturer: Sherwin Williams Color:
	099000	PT-2	General Paint Color Manufacturer: Sherwin Williams Color:
	092900	**SPF**	**SPRAY POLYURETHANE FOAM INSULATION**
	092900	SPF-1	Spray polyurethane foam insulation with intumescent fireproofing finish coating
		GL	**WOOD DOOR GLAZING**
		GL-1T	Clear FT glass, 1/4" minimum
	064000	**WD FAB**	**WOODWORK FABRICATIONS**
	064000	WD FAB-1	Wood Base: Custom-fabricated architectural woodwork Solid wood with transparent finish, species and grain to match existing
	064000	WD FAB-2	Wood Chair Rail: Custom-fabricated architectural woodwork Solid wood with transparent finish, species and grain to match existing
	064000	WD FAB-3	Wood Crown Molding: Custom-fabricated architectural woodwork Solid wood with opaque painted finish, profile to match existing
			END OF LIST



OTHER FLOOR PLAN SYMBOL DESIGNATIONS	
EXISTING DOOR TO REMAIN	EXISTING DOOR TO DEMO
EXISTING WALL TO REMAIN	EXISTING WALL TO DEMO
NEW WALL	TEMPORARY BARRIER
NEW RATED WALL	

1 SYMBOL DESIGNATIONS - FLOOR PLAN (REFERENCE)
1/4" = 1'-0"



OTHER CEILING PLAN SYMBOL DESIGNATIONS	
RECESSED DOWNLIGHT	TV CONNECTION (SEE ELECTRICAL DRAWINGS)
RECESSED WALL WASHER	HORN (SEE ELECTRICAL DRAWINGS)
PENDANT MOUNTED LIGHT FIXTURE	TRACK LIGHT FIXTURE (SEE ELECTRICAL DRAWINGS)
CEILING-MOUNTED EXIT LIGHT (SEE ELECTRICAL DRAWINGS)	EQUIPMENT MOUNTING TRACKS
WALL-MOUNTED EXIT LIGHT (SEE ELECTRICAL DRAWINGS)	SPRINKLER HEAD
SMOKE DETECTOR (SEE ELECTRICAL DRAWINGS)	SPEAKER (SEE ELECTRICAL DRAWINGS)

2 SYMBOL DESIGNATIONS - CEILING PLAN (REFERENCE)
1/4" = 1'-0"

1. ARCHITECTURAL
THIS CHARACTER DENOTES THE SHEET IS AN ARCHITECTURAL DRAWING.

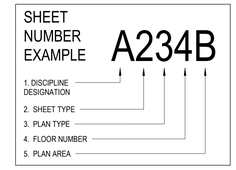
2. SHEET TYPE
THIS CHARACTER DENOTES THE TYPE OF INFORMATION ON THE SHEET

1. DEMOLITION PLANS
2. FLOOR PLANS
3. CEILING PLANS
4. EXTERIOR DETAILING
5. VERTICAL CIRCULATION
6. INTERIOR DETAILING
7. SCHEDULES
8. LAB (IF USED)
9. SHEET SPECIFICATIONS (IF USED)

3. PLAN TYPE
THESE CHARACTERS DENOTE THE SUB CATEGORY OF THE SHEET TYPE

4. FLOOR NUMBER
THESE CHARACTERS DENOTE THE FLOOR SHOWN ON THE SHEET

5. PLAN AREA
THESE CHARACTERS DENOTE THE AREA PLAN SHOWN ON THE SHEET (IF USED)



3 ARCHITECTURAL SHEET NUMBER DESIGNATIONS

ACOUSTIC TILE
ASPHALT CONCRETE
BLANKET INSULATION
CARPET (LARGE SCALE)
CERAMIC TILE
CONCRETE
CONCRETE MASONRY UNIT
EARTH
EXISTING CONSTRUCTION
FACEBRICK
GRANULAR MATERIAL
GASKET (LARGE SCALE)
METAL
PLASTER OR GYPSUM BOARD
QUARRY TILE
RIGID INSULATION
STONE
SOLID WOOD FINISHED
TERRAZZO
WOOD BLOCKING - CONTINUOUS
WOOD BLOCKING - INTERRUPTED
WOOD SHEATHING

4 ARCHITECTURAL MATERIAL DESIGNATIONS

HGA
7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

ARCHITECTURE
HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

ELECTRICAL ENGINEER
HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

MECHANICAL/ PLUMBING ENGINEER
HGA
7475 HUBBARD AVENUE
MIDDLETON, WI 53562
(608) 554-5333

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN

2392 COUNTY F
BAILEYS HARBOR, WI 54202

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 5410-001-00

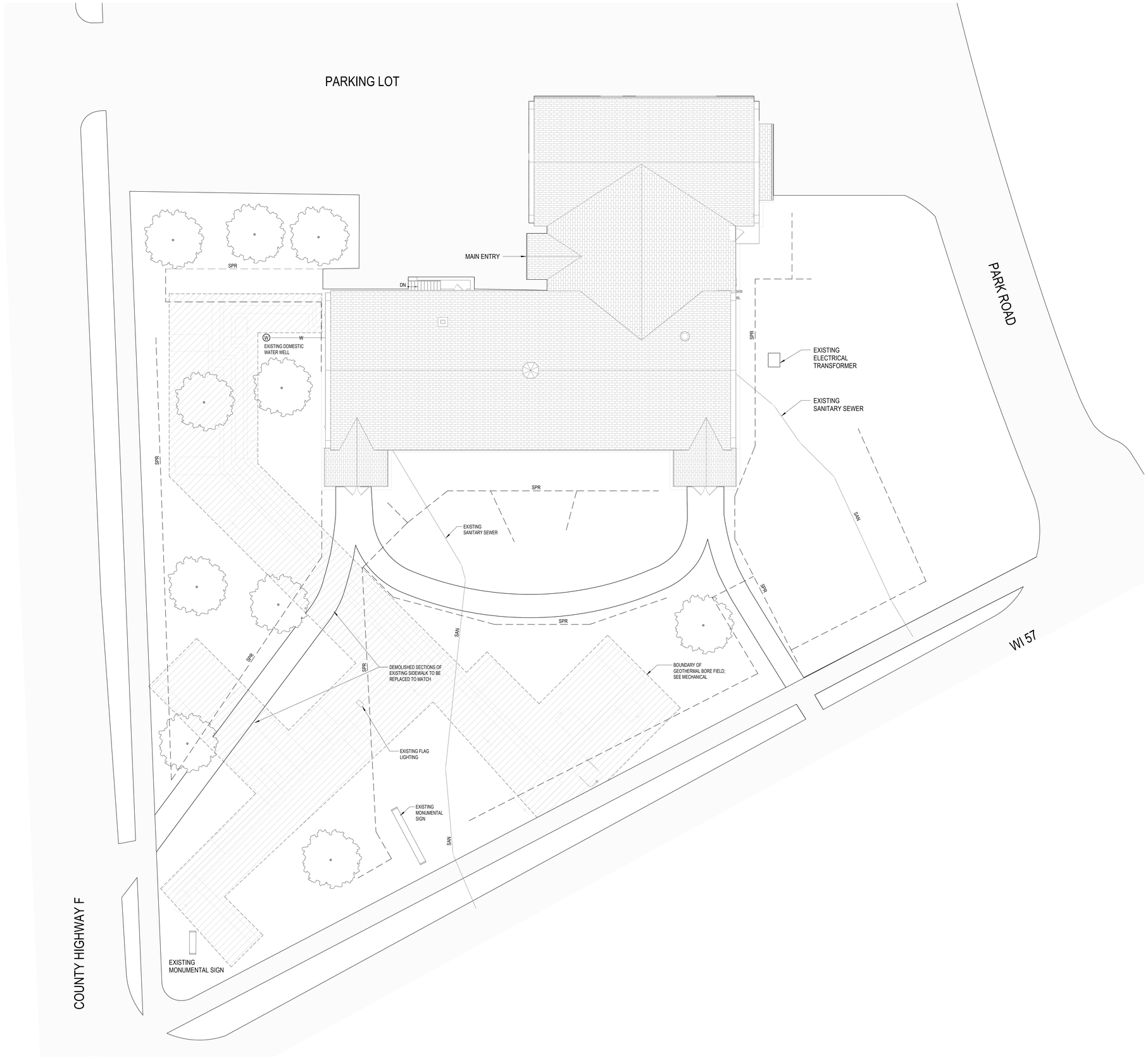
GENERAL NOTES AND SYMBOLS

DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

A010

Author 8/7/2025 4:54:27 PM Autodesk Docs://Bailey's Harbor_Geothermal Design_5410-001-00/A25_Bailey's Harbor Geothermal_5410-001-00.rvt



1 SITE PLAN
1" = 10'-0"

GENERAL NOTES - SITE PLAN

A. THE GEOTHERMAL CONTRACTOR IS REQUIRED TO VISIT THE SITE AND TAKE NOTE OF ALL EXISTING CONDITIONS THAT MAY AFFECT THIS WORK AND BE RESPONSIBLE FOR KNOWLEDGE OF SAME IN PREPARATION OF THIS BID. CONTRACTOR TO ALSO FAMILIARIZE THEMSELVES WITH GROUND FORMATIONS TO DEPTH OF VERTICAL BORES PLUS MINIMUM GROUND COVER DEPTH IN THE AREA OF THE PROPOSED GEOTHERMAL BOREFIELD. LACK OF INFORMATION ON EXISTING CONDITIONS SHALL NOT BE ALLOWED AS A VALID CAUSE FOR ADDITIONAL COMPENSATION.

B. THE GEOTHERMAL CONTRACTOR SHALL DETERMINE THE OPTIMAL LOCATION FOR GEOTHERMAL PIPING BETWEEN THE BOREFIELD AND BUILDING. LAYOUT SHOWN IS DIAGRAMMATIC.

C. ROUTE ALL GEOTHERMAL PIPING TO AVOID CONFLICTS AND PROVIDE THE REQUIRED VERTICAL AND HORIZONTAL SEPARATION DISTANCES WITH NEW AND EXISTING UTILITIES. BEFORE BEGINNING EXCAVATION, NOTIFY THE LOCAL ONE-CALL PUBLIC UTILITY LOCATING SERVICE AND COORDINATE ALL UNDERGROUND WORK. THIS INCLUDES BUT IS NOT LIMITED TO LOCATIONS OF BOUNDARIES, EASEMENTS, UNDERGROUND UTILITIES, AND POLE BASES. REFERENCE CIVIL AND ELECTRICAL DRAWINGS FOR SITE UTILITY TYPES, LOCATIONS, AND ELEVATIONS FOR COORDINATION.

D. THE GEOTHERMAL CONTRACTOR SHALL REVIEW AND ADHERE TO THE SITE EROSION CONTROL PLAN AND ENSURE THAT ALL WATER DISCHARGE AND DRILLING SOILING REMAIN ON SITE DURING CONSTRUCTION. CONTRACTOR SHALL USE TEMPORARY SETTLING BASINS, BERMS, AND ALL MEANS AND METHODS NECESSARY TO AVOID SITE RUNOFF. SPOILS SHALL BE EXCAVATED AND DISPOSED OF TO RETURN ALL SOILS TO THEIR DESIGN CONDITION.

E. SEE SPECIFICATIONS FOR RESULTS OF 320' TEST BORES PERFORMED IN JUNE 03, 2025

HGA
7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

ARCHITECTURE

HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

ELECTRICAL ENGINEER

HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

MECHANICAL/ PLUMBING ENGINEER

HGA
7475 HUBBARD AVENUE
MIDDLETON, WI 53562
(608) 554-5333

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN

2392 COUNTY F
BAILEYS HARBOR, WI 54202

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 5410-001-00

ARCHITECTURAL SITE PLAN

DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

A020

Author 8/7/2025, 4:54:32 PM Autodesk Docs://Bailey's Harbor_Geothermal Design_5410-001-00/A35_Bailey's Harbor Geothermal_5410-001-00.rvt

KEYNOTES

#	DESCRIPTION
D2	REMOVE EXISTING WALL FINISH AT THIS LOCATION IN PREPARATION FOR NEW PARTITIONS
D3	EXISTING DOOR AND FRAME TO REMAIN; REMOVE EXISTING WOOD SLAT LOUVRE AND SIDELIGHT GLAZING; PREPARE FOR FULL HEIGHT GLASS SIDELIGHT WITHIN EXISTING FRAME
D4	EXISTING DOOR FRAME TO REMAIN; REMOVE EXISTING DOOR PANEL; SALVAGE HARDWARE FOR RE-USE
D5	FLOOR CUT AS REQUIRED FOR NEW DUCT; COORDINATE SIZE WITH MECHANICAL
D15	REMOVE EXISTING DRINKING FOUNTAIN. COORDINATE WITH OWNER TO SALVAGE OR DISPOSE.

GENERAL NOTES - DEMOLITION PLAN

A. COORDINATE EXTENT OF DEMOLITION WITH REQUIREMENTS FOR NEW WORK.
B. REMOVE EXISTING CONSTRUCTION AS INDICATED OR REQUIRED FOR NEW WORK, UNLESS NOTED OTHERWISE.
C. AT SIDES OF WALLS, THAT ABUT WALLS TO REMAIN, CUT BACK AT LEAST 1 INCH (25 MM) BEYOND FACE OF FINISH OF WALL TO REMAIN TO FACILITATE SUBSEQUENT PATCHING AND NEW CONSTRUCTION.
D. COMPLETELY REMOVE FINISHES, SUBBASE MATERIALS AND STRUCTURAL FRAMING MATERIALS TO LINES INDICATED OR REQUIRED FOR NEW WORK.
E. EXISTING UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS ARE TO REMAIN, UNLESS INDICATED OTHERWISE.
F. RELOCATE EXISTING WORK SERVING OCCUPIED PORTIONS OF THE BUILDING AS REQUIRED TO MAINTAIN SERVICE TO OCCUPIED AREAS AND TO ACCOMMODATE NEW WORK.
G. REMOVE AND CAP PORTIONS OF EXISTING UTILITIES INDICATED TO BE DEMOLISHED AS REQUIRED TO ACCOMMODATE NEW WORK, INCLUDING SURFACE-MOUNTED ELECTRICAL CONDUIT, DEVICES AND LIGHT FIXTURES; RADIATORS, RADIATOR COVERS; PLUMBING FIXTURES AND ASSOCIATED PIPING.
H. REMOVE CEILINGS INDICATED TO BE DEMOLISHED INCLUDING INTEGRAL HANGERS, SUPPORTS, ANCHORS AND MATERIALS OR ASSEMBLIES ATTACHED TO CEILING CONSTRUCTION.
I. REMOVE SUSPENDED CEILINGS TO UNDERSIDE OF STRUCTURE OR ORIGINAL PLASTER OR GYPSUM BOARD CEILING SURFACES. REMOVE ANY ABANDONED OR PARTIALLY DEMOLISHED CEILINGS UNCOVERED BENEATH.
J. MAINTAIN EGRESS FROM EXISTING OCCUPIED SPACES AND SURROUNDING BUILDING AREAS AS INDICATED AND AS REQUIRED BY AUTHORITIES HAVING JURISDICTION. MAINTAIN EGRESS FROM EXISTING OCCUPIED SPACES AND SURROUNDING BUILDING AREAS AS INDICATED AND AS REQUIRED BY AUTHORITIES HAVING JURISDICTION.
K. PROVIDE AND MAINTAIN FIRE EXTINGUISHERS IN AREA OF WORK, IN ACCORDANCE WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
L. COORDINATE UTILITY INTERRUPTIONS WITH OWNER. PROVIDE AT LEAST 48 HOURS WRITTEN NOTICE TO OWNER BEFORE UTILITY INTERRUPTIONS OBTAIN OWNER'S WRITTEN APPROVAL OF INTERRUPTIONS BEFORE PROCEEDING.
M. COORDINATE OPERATIONS THAT MAY RESULT IN HIGH LEVELS OF NOISE AND VIBRATION, ODORS, OR OTHER DISRUPTIONS TO OCCUPANCY WITH OWNER. OBTAIN OWNER'S WRITTEN PERMISSION BEFORE PROCEEDING.
N. PROVIDE TEMPORARY BARRIERS AND ENCLOSURES AS REQUIRED TO PROTECT MATERIALS AND PEOPLE. PREVENT DUST, FUMES, AND ODORS FROM ENTERING OCCUPIED AREAS. MAINTAIN AND RELOCATE TEMPORARY BARRIERS AND ENCLOSURES AS REQUIRED BY THE PROGRESS OF THE WORK. REMOVE TEMPORARY BARRIERS AND ENCLOSURES AT COMPLETION OF WORK.
O. PRIOR TO STARTING DEMOLITION, VERIFY EXISTING CONDITIONS AND DIMENSIONS. COORDINATE EXTENT OF DEMOLITION WORK AND EXISTING CONSTRUCTION TO REMAIN WITH NEW WORK. NOTIFY ARCHITECT OF CONFLICTS OR DISCREPANCIES.
P. REFER TO DISCIPLINE-SPECIFIC DRAWINGS FOR HEATING VENTILATION AND AIR CONDITIONING AND ELECTRICAL DEMOLITION WORK.
Q. ALL DOORS TO BE REMOVED TO BE SALVAGED AND RETURNED TO OWNER FOR STORAGE.
R. CEILING TILES IN GOOD SHAPE FROM MULTIPURPOSE ROOM 012 TO BE SALVAGED AND RETURNED TO OWNER FOR ATTIC STOCK AND/OR USED TO REPLACE INCIDENTAL DAMAGE IN OTHER PARTS OF THE LOWER LEVEL.

DEMOLITION PLAN LEGEND

SEE A010 FOR ALL GENERAL NOTES, ABBREVIATIONS, AND SYMBOLS

	(E) CONSTRUCTION TO REMAIN
0	ZERO HOUR
1	(E) ONE HOUR RATED
2	(E)TWO HOUR RATED
3	THREE HOUR RATED
4	FOUR HOUR RATED
	(E) CONSTRUCTION TO BE REMOVED
	TEMPORARY BARRIER

TYPE OF ASSEMBLY

W	FIRE WALL	S	SMOKE BARRIER
B	FIRE BARRIER	SP	SMOKE PARTITIONS
P	FIRE PARTITION	ST	RESIST PASSAGE OF SMOKE
E	EXISTING AND RATED		

DOOR TO BE DEMOLISHED

1 DEMOLITION PLAN - LOWER LEVEL
1/8" = 1'-0"

2 OVERALL DEMOLITION PLAN - LEVEL 01
1/8" = 1'-0"

HGA
7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

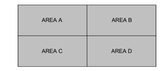
ARCHITECTURE
HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

ELECTRICAL ENGINEER
HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

MECHANICAL/ PLUMBING ENGINEER
HGA
7475 HUBBARD AVENUE
MIDDLETON, WI 53562
(608) 554-5333

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN

2392 COUNTY F
BAILEYS HARBOR, WI 54202



KEYPLAN

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

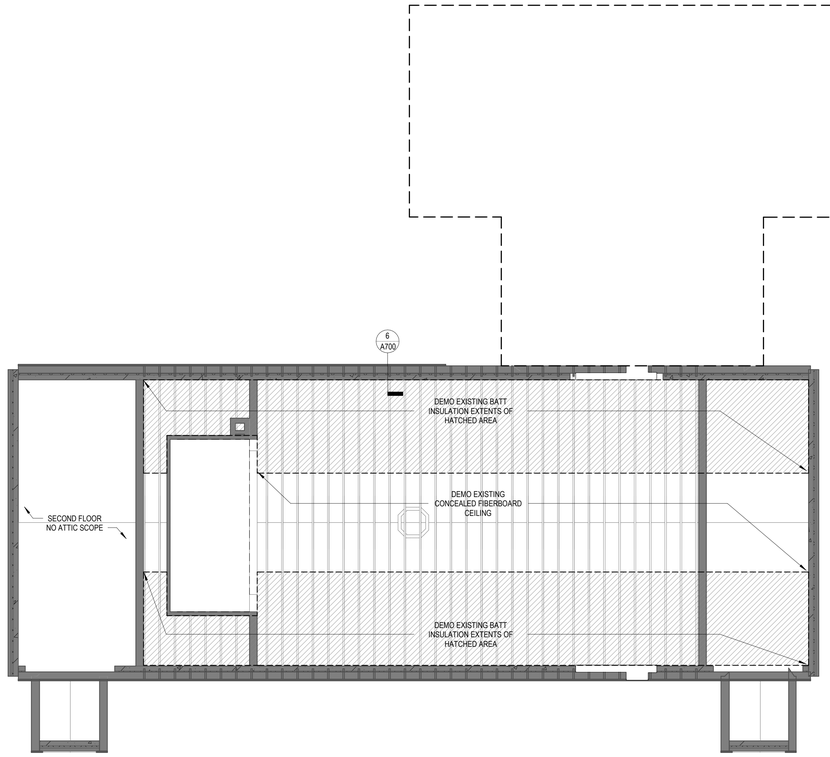
HGA NO: 5410-001-00

DEMOLITION PLANS

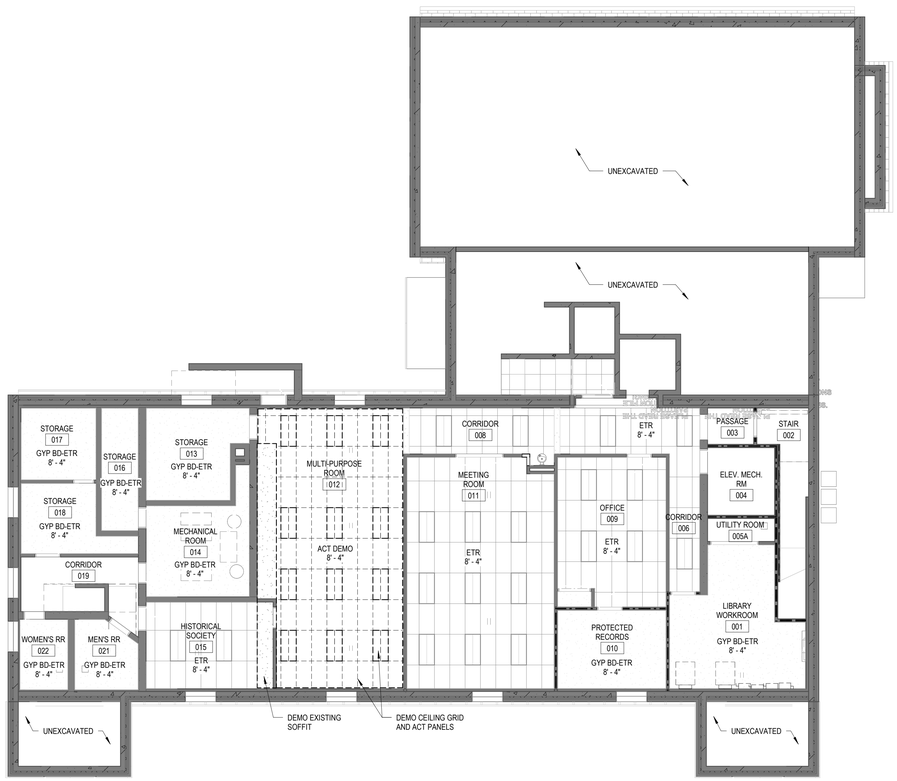
DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

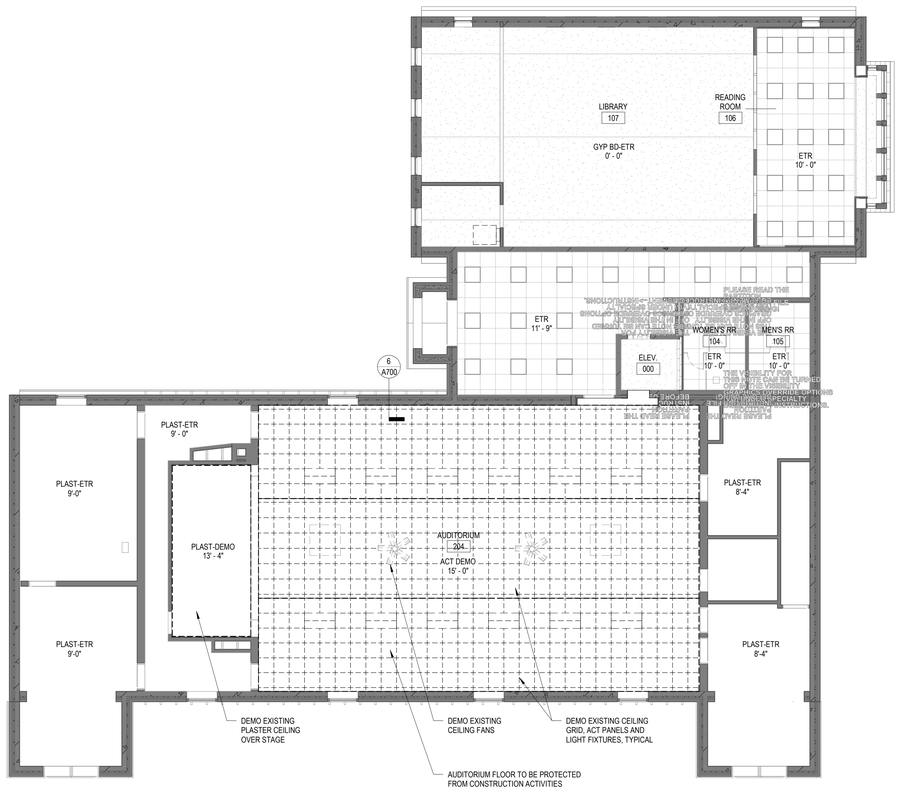
A101



3 DEMOLITION REFLECTED CEILING PLAN - ATTIC
1/8" = 1'-0"



2 DEMOLITION REFLECTED CEILING PLAN - LOWER LEVEL
1/8" = 1'-0"



1 DEMOLITION REFLECTED CEILING PLAN - LEVEL 01
1/8" = 1'-0"

DEMOLITION RCP LEGEND

- DEMOLISHED GYPSUM BOARD CEILING
- DEMOLISHED ACOUSTIC CEILING TILE
- 2X4 LIGHT FIXTURE
- 1X4 LIGHT FIXTURE
- 2X2 LIGHT FIXTURE
- RECESSED LIGHT
- ACCESS PANEL
- DIFFUSER

GENERAL NOTES - DEMOLITION PLAN

A. COORDINATE EXTENT OF DEMOLITION WITH REQUIREMENTS FOR NEW WORK.
B. REMOVE EXISTING CONSTRUCTION AS INDICATED OR REQUIRED FOR NEW WORK, UNLESS NOTED OTHERWISE.
C. AT SIDES OF WALLS, THAT ABUT WALLS TO REMAIN, CUT BACK AT LEAST 1 INCH (25 MM) BEYOND FACE OF FINISH OF WALL TO REMAIN TO FACILITATE SUBSEQUENT PATCHING AND NEW CONSTRUCTION.
D. COMPLETELY REMOVE FINISHES, SUBBASE MATERIALS AND STRUCTURAL FRAMING MATERIALS TO LINES INDICATED OR REQUIRED FOR NEW WORK.
E. EXISTING UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS ARE TO REMAIN, UNLESS INDICATED OTHERWISE.
F. RELOCATE EXISTING WORK SERVING OCCUPIED PORTIONS OF THE BUILDING AS REQUIRED TO MAINTAIN SERVICE TO OCCUPIED AREAS AND TO ACCOMMODATE NEW WORK.
G. REMOVE AND CAP PORTIONS OF EXISTING UTILITIES INDICATED TO BE DEMOLISHED AS REQUIRED TO ACCOMMODATE NEW WORK, INCLUDING SURFACE-MOUNTED ELECTRICAL CONDUIT, DEVICES AND LIGHT FIXTURES; RADIATORS, RADIATOR COVERS; PLUMBING FIXTURES AND ASSOCIATED PIPING.
H. REMOVE CEILINGS INDICATED TO BE DEMOLISHED INCLUDING INTEGRAL HANGERS, SUPPORTS, ANCHORS AND MATERIALS OR ASSEMBLIES ATTACHED TO CEILING CONSTRUCTION.
I. REMOVE SUSPENDED CEILINGS TO UNDERSIDE OF STRUCTURE OR ORIGINAL PLASTER OR GYPSUM BOARD CEILING SURFACES. REMOVE ANY ABANDONED OR PARTIALLY DEMOLISHED CEILINGS UNCOVERED BENEATH.
J. MAINTAIN EGRESS FROM EXISTING OCCUPIED SPACES AND SURROUNDING BUILDING AREAS AS INDICATED AND AS REQUIRED BY AUTHORITIES HAVING JURISDICTION. MAINTAIN EGRESS FROM EXISTING OCCUPIED SPACES AND SURROUNDING BUILDING AREAS AS INDICATED AND AS REQUIRED BY AUTHORITIES HAVING JURISDICTION.
K. PROVIDE AND MAINTAIN FIRE EXTINGUISHERS IN AREA OF WORK, IN ACCORDANCE WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
L. COORDINATE UTILITY INTERRUPTIONS WITH OWNER. PROVIDE AT LEAST 48 HOURS WRITTEN NOTICE TO OWNER BEFORE UTILITY INTERRUPTIONS OBTAIN OWNER'S WRITTEN APPROVAL OF INTERRUPTIONS BEFORE PROCEEDING.
M. COORDINATE OPERATIONS THAT MAY RESULT IN HIGH LEVELS OF NOISE AND VIBRATION, ODORS, OR OTHER DISRUPTIONS TO OCCUPANCY WITH OWNER. OBTAIN OWNER'S WRITTEN PERMISSION BEFORE PROCEEDING.
N. PROVIDE TEMPORARY BARRIERS AND ENCLOSURES AS REQUIRED TO PROTECT MATERIALS AND PEOPLE. PREVENT DUST, FUMES, AND ODORS FROM ENTERING OCCUPIED AREAS. MAINTAIN AND RELOCATE TEMPORARY BARRIERS AND ENCLOSURES AS REQUIRED BY THE PROGRESS OF THE WORK. REMOVE TEMPORARY BARRIERS AND ENCLOSURES AT COMPLETION OF WORK.
O. PRIOR TO STARTING DEMOLITION. VERIFY EXISTING CONDITIONS AND DIMENSIONS. COORDINATE EXTENT OF DEMOLITION WORK AND EXISTING CONSTRUCTION TO REMAIN WITH NEW WORK. NOTIFY ARCHITECT OF CONFLICTS OR DISCREPANCIES.
P. REFER TO DISCIPLINE-SPECIFIC DRAWINGS FOR HEATING VENTILATION AND AIR CONDITIONING AND ELECTRICAL DEMOLITION WORK.
Q. ALL DOORS TO BE REMOVED TO BE SALVAGED AND RETURNED TO OWNER FOR STORAGE.
R. CEILING TILES IN GOOD SHAPE FROM MULTIPURPOSE ROOM 012 TO BE SALVAGED AND RETURNED TO OWNER FOR ATTIC STOCK AND/OR USED TO REPLACE INCIDENTAL DAMAGE IN OTHER PARTS OF THE LOWER LEVEL.

HGA
7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

ARCHITECTURE
HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

ELECTRICAL ENGINEER
HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

MECHANICAL/ PLUMBING ENGINEER
HGA
7475 HUBBARD AVENUE
MIDDLETON, WI 53562
(608) 554-5333

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN

2392 COUNTY F
BAILEYS HARBOR, WI 54202

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

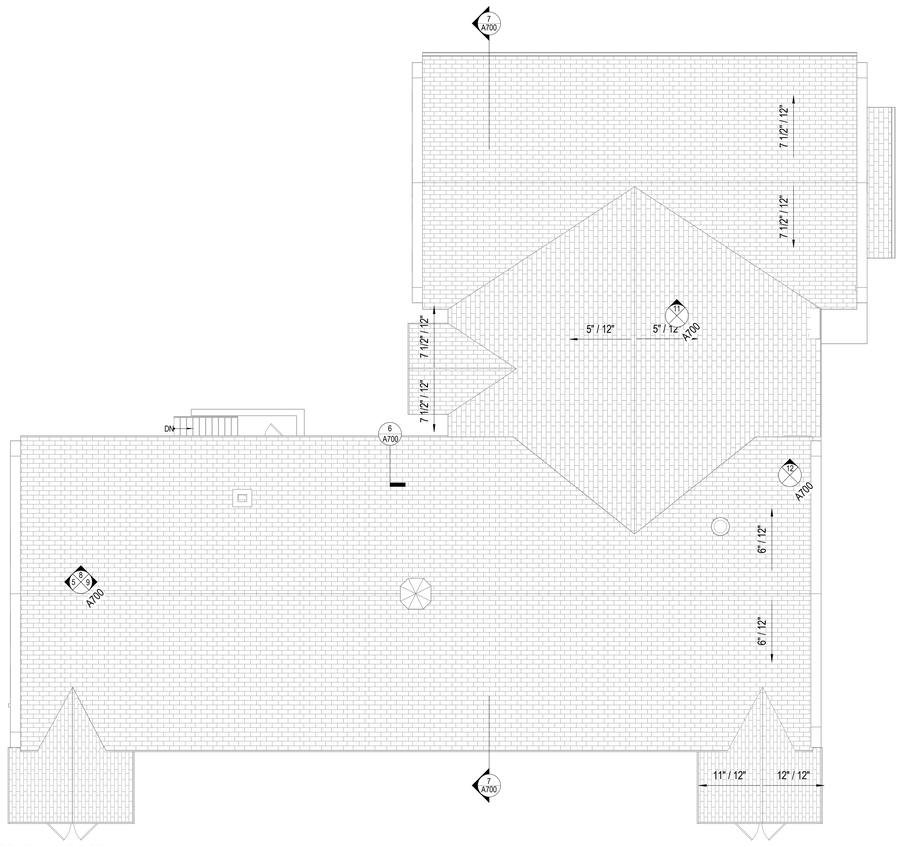
HGA NO: 5410-001-00

DEMOLITION REFLECTED CEILING PLANS

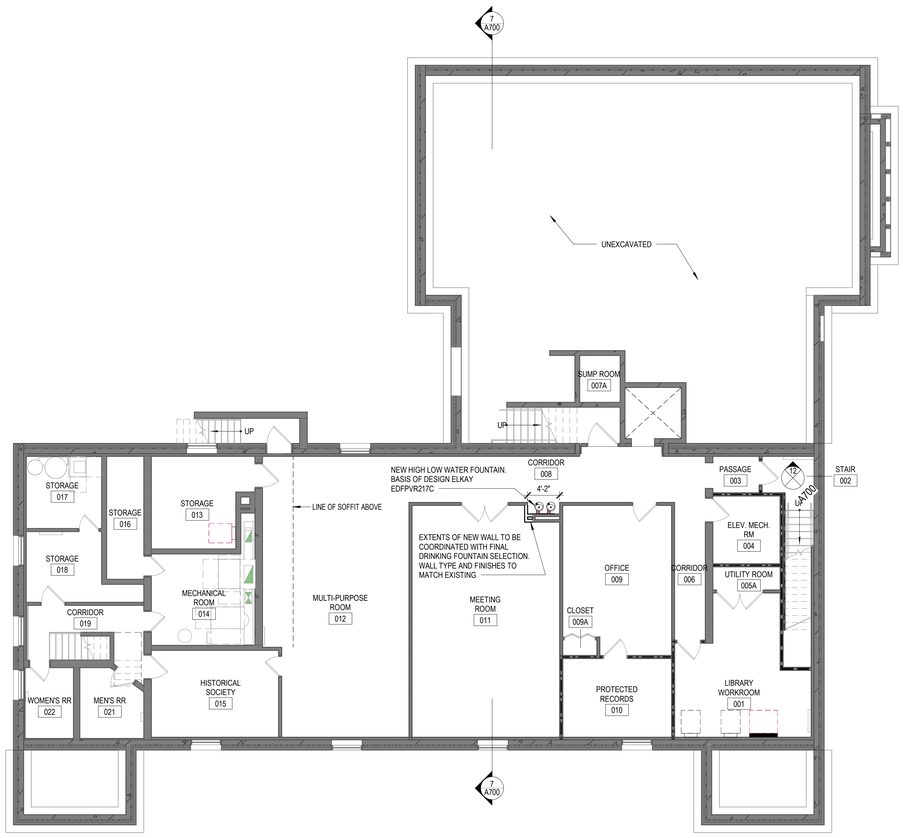
DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

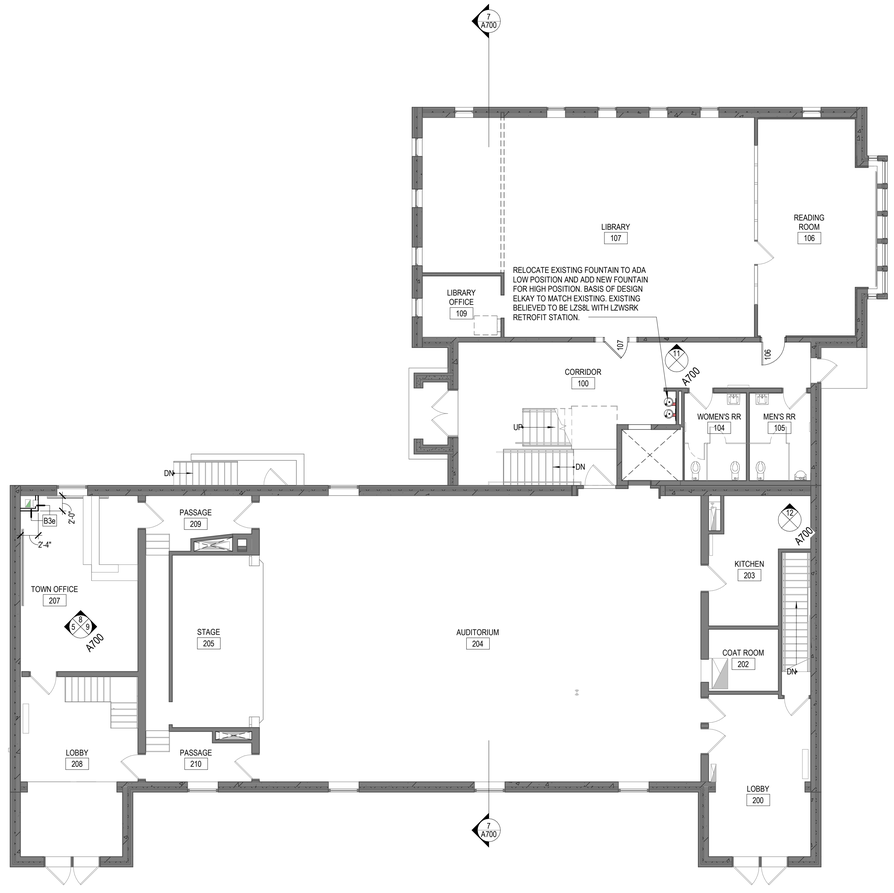
A121



3 FLOOR PLAN - ROOF
1/8" = 1'-0"



1 FLOOR PLAN - LOWER LEVEL
1/8" = 1'-0"



2 FLOOR PLAN - LEVEL 01
1/8" = 1'-0"

FLOOR PLAN LEGEND

SEE A010 FOR ALL GENERAL NOTES, ABBREVIATIONS, AND SYMBOLS

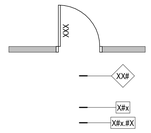
	(E) CONSTRUCTION TO REMAIN
	(N) CONSTRUCTION
	TEMPORARY CONSTRUCTION

ASSEMBLY RATING

0	ZERO HOUR
1	ONE HOUR RATED
2	TWO HOUR RATED
3	THREE HOUR RATED
4	FOUR HOUR RATED

TYPE OF ASSEMBLY

W	FIRE WALL	S	SMOKE BARRIER
B	FIRE BARRIER	SP	SMOKE PARTITIONS
P	FIRE PARTITION	ST	RESIST PASSAGE OF SMOKE
E	EXISTING AND RATED		



DOOR TAG
SEE DOOR SCHEDULE AND LEGEND FOR ADDITIONAL INFORMATION

EXTERIOR WALL TAG
SEE EXTERIOR WALL SHEET FOR ADDITIONAL INFORMATION

INTERIOR PARTITION TAG
SEE PARTITION SHEET FOR ADDITIONAL INFORMATION

GENERAL NOTES - FLOOR PLAN

A. ALL INTERIOR PARTITIONS SHALL BE "**A3.**" UNLESS NOTED OTHERWISE.
B. PLAN DIMENSIONS ARE FROM FACE OF PARTITION TYPE AND DO NOT INCLUDE APPLIED FINISHES, UNLESS NOTED OTHERWISE. PLAN DIMENSIONS INDICATED AS "HOLD" OR "CLEAR" DIMENSIONS ARE FROM FACE OF APPLIED FINISH.
C. INSTALL WORK STRAIGHT, PLUMB, LEVEL, SQUARE, AND TRUE, IN PROPER ALIGNMENT.
D. FLATNESS: LEVEL FLOORS TO TRUE PLANE WITHIN 1/4 INCH (6 MM) IN 10'-0" (3 M) WHEN TESTED BY TEN FOOT (3 M) STRAIGHTEDGE PLACED ANYWHERE ON FLOOR IN ANY DIRECTION.
E. COORDINATE FURNITURE-RELATED ELECTRICAL LAYOUT WITH FURNITURE VENDOR.
F. WHERE HANDRAILS, GRAB BARS, CABINETS, WALL-MOUNTED DOOR STOPS, OR OTHER WALL-HUNG ITEMS ARE ATTACHED TO PARTITIONS, INSTALL BACKER PLATES [OR WOOD BLOCKING] ACCURATELY POSITIONED AND FIRMLY SECURED TO METAL STUDS, WHETHER OR NOT SUCH BACKER PLATES OR BLOCKING ARE INDICATED ON DRAWINGS.
G. WHERE NEW WORK ABUTS, ALIGNS OR ADJOINS EXISTING MATERIALS, MAKE SMOOTH AND EVEN TRANSITION AND ELIMINATE EVIDENCE OF PATCHING AND REFINISHING. FINISH NEW WORK TO MATCH ADJACENT UNDISTURBED SURFACES, UNLESS NOTED OTHERWISE.
H. CLOSE AND PATCH HOLES AND OPENINGS IN EXISTING FLOOR, WALL AND CEILING WHICH EXIST OR RESULT FROM DEMOLITION OR ALTERATION WORK. TO MATCH ADJACENT UNDISTURBED SURFACES.
I. PRIOR TO CONCEALMENT OF FIRE RESISTIVE MATERIALS BY OTHER WORK, PATCH AND REPAIR AREAS OF REMOVED OR DAMAGED APPLIED FIREPROOFING. COMPLETE PATCHING AND REPAIR TO MAINTAIN EXISTING FIRE-RESISTANCE DESIGN IN ACCORDANCE WITH FIREPROOFING MANUFACTURER'S WRITTEN INSTRUCTIONS FOR CONDITIONS OF EXPOSURE AND INTENDED USE. COORDINATE TESTING AND INSPECTION OF ASSEMBLIES AS REQUIRED BY AUTHORITIES HAVING JURISDICTION.
J. PROVIDE FIRESTOPPING OF PENETRATIONS AND VOIDS THROUGH FIRE-RATED WALL, FLOOR AND PARTITION ASSEMBLIES [AND ROOF] INCLUDING EMPTY OPENINGS AND OPENINGS CONTAINING CABLES, PIPES, DUCTS, CONDUIT AND OTHER ELEMENTS.
K. AT SOUND-RATED PARTITION WALLS, PROVIDE CONTINUOUS BEAD OF ACOUSTICAL SEALANT AT JUNCTURE OF BOTH FACES OF RUNNERS OR PLATES WITH FLOOR AND CEILING CONSTRUCTION, AND WHEREVER GYPSUM BOARD ABUTS DISSIMILAR MATERIALS.
   - AT OPENINGS AND CUTOUTS, FILL OPEN SPACES BETWEEN GYPSUM BOARD AND FIXTURES, CABINETS, DUCTS AND OTHER FLUSH OR PENETRATING ITEMS, WITH CONTINUOUS BEAD OF SEALANT.
   - SEAL SIDES AND BACKS OF ELECTRICAL BOXES TO COMPLETELY CLOSE OFF OPENINGS AND JOINTS.

KEYNOTES

#	DESCRIPTION

HGA
7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

ARCHITECTURE
HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

ELECTRICAL ENGINEER
HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

MECHANICAL/ PLUMBING ENGINEER
HGA
7475 HUBBARD AVENUE
MIDDLETON, WI 53562
(608) 554-5333

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN

2392 COUNTY F
BAILEYS HARBOR, WI 54202

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

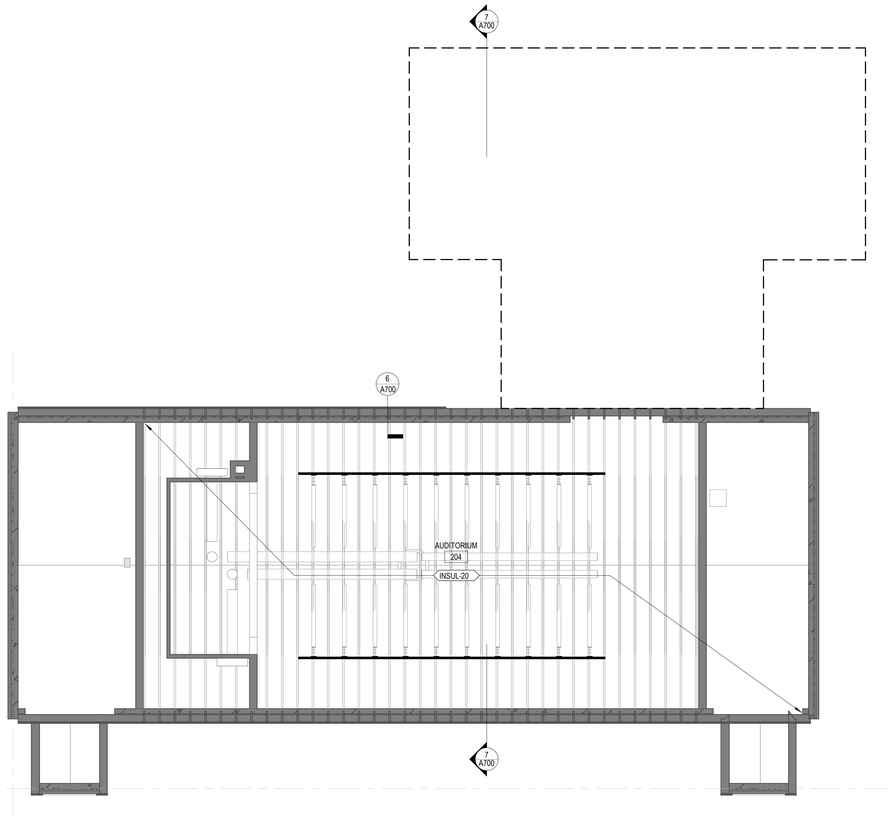
HGA NO: 5410-001-00

FLOOR PLANS

DATE: August 07, 2025

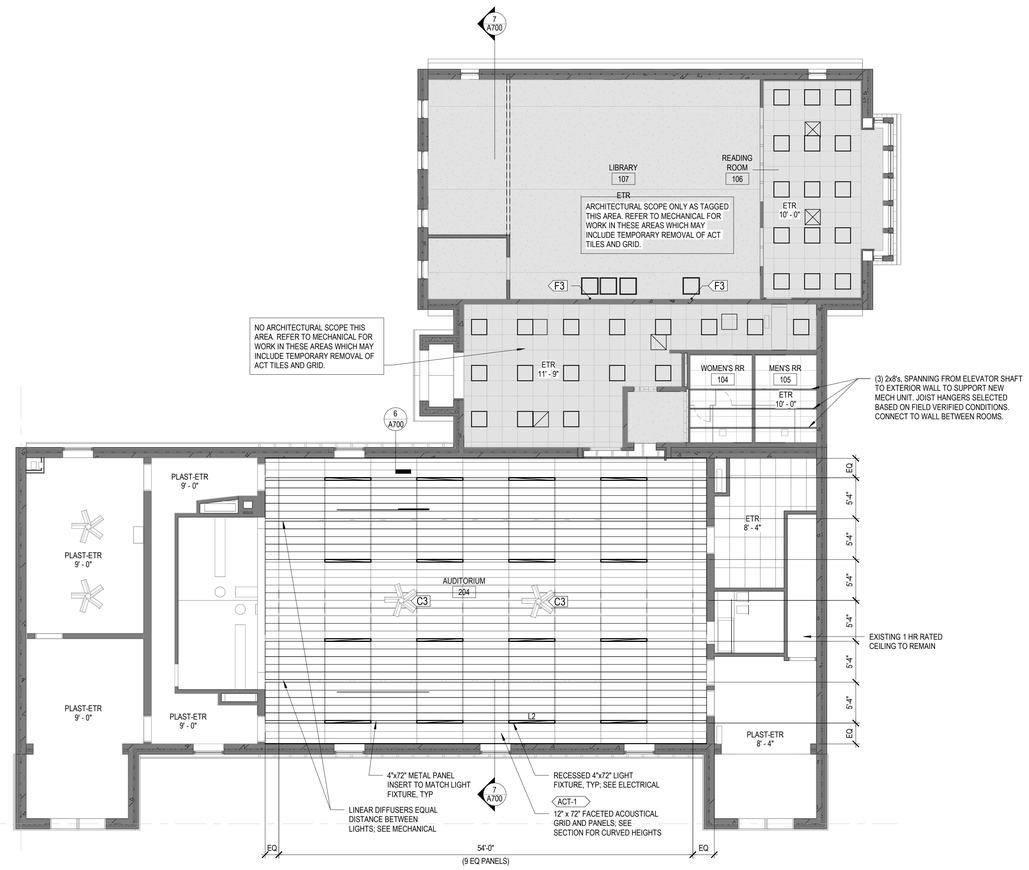
CONSTRUCTION DOCUMENTS

A200



5 REFLECTED CEILING PLAN - ATTIC
1/8" = 1'-0"

1 REFLECTED CEILING PLAN - LOWER LEVEL
1/8" = 1'-0"



2 REFLECTED CEILING PLAN - LEVEL 01
1/8" = 1'-0"

RCP LEGEND

- 2x2 ACT; SEE PLAN FOR CEILING HEIGHTS
- 2x4 ACT; SEE PLAN FOR CEILING HEIGHTS
- HATCHED AREA INDICATES AREA OF EXISTING CEILING TO REMAIN. CLEAN EXISTING GRID, REGISTERS AND OTHER DEVICES AND REPAIR OR REPLACE DAMAGED COMPONENTS TO MATCH EXISTING.
- GYPSUM BOARD CEILING; SEE PLAN FOR CEILING HEIGHTS
- NO ARCHITECTURAL SCOPE
- 2X2 LIGHT FIXTURE
- 2X4 LIGHT FIXTURE
- RECESSED DOWN LIGHT FIXTURE
- EXIT SIGN
- LINEAR LIGHT FIXTURE
- RETURN GRILLE
- SUPPLY DIFFUSER
- EXHAUST DIFFUSER
- ACCESS PANEL
- START POINT OF CEILING GRID

GENERAL NOTES - CEILING PLAN

A. CEILING HEIGHTS ARE DIMENSIONED FROM FLOOR DATUM ELEVATION TO FINISHED CEILING, UNLESS OTHERWISE NOTED.
B. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION RELATIVE TO DEVICE AND FIXTURE LOCATIONS.
C. COORDINATE INTEGRATION OF CEILING SYSTEMS WORK INCLUDING, BUT NOT LIMITED TO, MECHANICAL, ELECTRICAL, SPRINKLER AND FIRE PROTECTION, TELECOMMUNICATIONS, AND STRUCTURAL SYSTEMS, TO MAINTAIN CEILING HEIGHT INDICATED. NOTIFY ARCHITECT OF CONFLICTS PRIOR TO PROCEEDING WITH THE WORK.
D. LOCATE COMPONENTS WITHIN CEILING PLENUM TO MAXIMIZE CLEAR AREA FOR INSTALLATION OF LIGHT FIXTURES AND ACCOMMODATE FIXTURE LAYOUT AS INDICATED.
E. PROVIDE ACCESS PANELS AT GYPSUM BOARD CEILINGS AND WHERE ACCESS IS REQUIRED FOR ITEMS OF MECHANICAL, PLUMBING AND ELECTRICAL WORK LOCATED BEHIND OR ABOVE FINISHED WALLS OR CEILINGS WHICH REQUIRE ACCESS, WHETHER OR NOT SUCH PANELS ARE INDICATED ON DRAWINGS. VERIFY LOCATION OF ACCESS PANELS WITH ARCHITECT PRIOR TO INSTALLATION.
F. REVIEW LOCATION OF LIFE-SAFETY DEVICES AND/OR EQUIPMENT NOT SHOWN ON THE DRAWINGS. WITH ARCHITECT PRIOR TO INSTALLATION.
G. ACOUSTICAL CEILING GRID AND LIGHTING SHALL BE CENTERED IN ROOM(S) UNLESS NOTED OTHERWISE.
H. CENTER RECESSED LIGHTS, ELECTRICAL, MECHANICAL DEVICES AND SPRINKLER HEADS WHEN SHOWN IN CEILING TILES. WHERE RECESSED LIGHTS ARE SHOWN OFF-CENTER IN 2X4 SCORED CEILING TILE, CENTER THE FIXTURE WITHIN THE 2X2 PORTION OF THE TILE.
I. CEILING FINISHES ADJACENT TO OR WITHIN THE LIMITS OF CONSTRUCTION DISTURBED OR DAMAGED BY CONSTRUCTION SHALL BE PATCHED TO MATCH EXISTING ADJACENT CEILING FINISH.
J. CAREFULLY REMOVE EXISTING ACT TILE AS REQUIRED FOR ABOVE-CEILING WORK DEFINED IN SYSTEMS DESIGN DOCUMENTS. STORE ACT DURING CONSTRUCTION AND REINSTALL AS PART OF FINISHED CONSTRUCTION. CEILING GRID SHALL REMAIN IN-PLACE WHERE POSSIBLE.

KEYNOTES

#	DESCRIPTION
C3	PROVIDE BLOCKING AS REQUIRED FOR NEW CEILING FANS; SEE MECHANICAL AND ELECTRICAL. REFER TO STRUCTURAL DRAWING FOR MORE INFORMATION.
F3	PATCH AND REPAIR EXISTING SOFFIT AS REQUIRED WHERE MECHANICAL PENETRATIONS OCCUR

HGA
7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

ARCHITECTURE
HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

ELECTRICAL ENGINEER
HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

MECHANICAL/ PLUMBING ENGINEER
HGA
7475 HUBBARD AVENUE
MIDDLETON, WI 53562
(608) 554-5333

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN

2392 COUNTY F
BAILEYS HARBOR, WI 54202

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

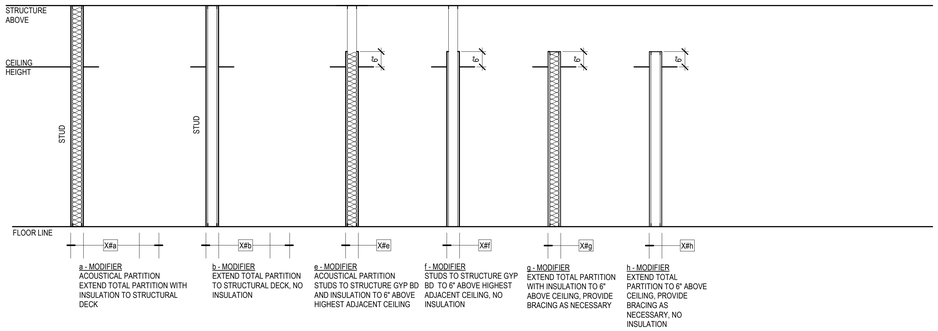
HGA NO: 5410-001-00

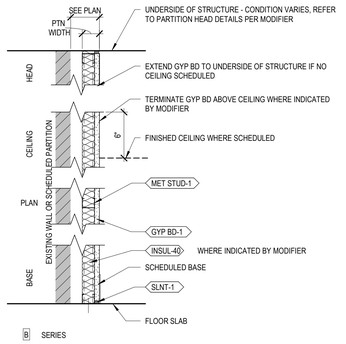
REFLECTED CEILING PLAN

DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

A300





PTN TYPE	STUD WIDTH	PTN WIDTH	DESIGN STC	AVAILABLE FIRE RESISTANCE
B1..	1 5/8"	2 1/4"		
B2..	2 1/2"	3 1/8"		
B3..	3 5/8"	4 1/4"		
B4..	4"	4 5/8"		
B6..	6"	6 5/8"		

B INTERIOR PARTITION TYPE - B SERIES
1 1/2" = 1'-0"

GENERAL NOTES - INTERIOR PARTITIONS

1. MINIMUM SOUND TRANSMISSION CLASS (STC) VALUES INDICATED ARE BASED ON PARTITION TYPE WITH "A" MODIFIER; WHERE PARTITION ASSEMBLY EXTENDS TO DECK WITH ACOUSTIC INSULATION FILLING SPACE BETWEEN FRAMING FOR FULL HEIGHT OF PARTITION.
2. PROVIDE ACOUSTICAL SEALANT AND SOUND ATTENUATION BLANKETS AT STC-RATED PARTITIONS.
3. FLOOR PLAN DIMENSIONS ARE TO FACE OF SCHEDULED PARTITION ASSEMBLY EXCLUSIVE OF APPLIED FINISHES, UNLESS NOTED OTHERWISE.
4. "CLEAR", "HOLD" OR "FACE OF FINISH" DIMENSIONS INDICATE MINIMUM CLEARANCE REQUIRED BETWEEN SCHEDULED PARTITIONS WITH APPLIED FINISHES.
5. PARTITION TYPES INDICATE GENERAL INTERIOR PARTITION REQUIREMENTS. REFER TO OTHER CONTRACT DOCUMENTS FOR ADDITIONAL REQUIREMENTS RELATED TO INTERIOR PARTITION CONSTRUCTION AND PERFORMANCE REQUIREMENTS.
6. PARTITION TYPES INDICATED REFLECT TYPICAL CONDITIONS. REFER TO REFERENCED DETAILS FOR SPECIFIC PARTITION DETAILS.
7. PROVIDE PENETRATION FIRESTOPPING AND JOINT FIRESTOPPING AS SCHEDULED AND AS REQUIRED TO MAINTAIN CONTINUITY OF FIRE-RESISTANCE RATINGS OF ASSEMBLIES.
8. REFER TO STRUCTURAL DRAWINGS FOR INTERIOR STRUCTURAL PARTITIONS OF COLD-FORMED METAL FRAMING AND PARTITIONS INDICATED AS <STR.#>.
9. FIRE-RESISTANCE RATINGS AND ACOUSTICAL PERFORMANCE REQUIREMENTS INDICATED ARE BASED ON SPECIFIED PRODUCTS AND SYSTEMS. FIRE-RESISTANCE RATINGS AND ACOUSTICAL PERFORMANCE REQUIREMENTS FOR SYSTEMS USING MATERIALS AND PRODUCTS OTHER THAN THOSE SPECIFIED MAY VARY.
10. PROVIDE MOISTURE- AND MOLD-RESISTANT GYPSUM BOARD AT THE FOLLOWING LOCATIONS, UNLESS NOTED OTHERWISE: PARTITIONS IN TOILET ROOMS OTHER THAN SHOWER WALLS, JANITOR'S CLOSETS, OTHER PARTITIONS TO RECEIVE CERAMIC AND STONE TILE, AND AS INDICATED.
11. PROVIDE CEMENTITIOUS BACKER BOARD AT PARTITIONS AROUND SHOWERS AND OTHER LOCATIONS AS INDICATED.
12. PROVIDE GYPSUM BASE FOR VENEER PLASTER WHERE GYPSUM VENEER PLASTER FINISH IS INDICATED.
13. WHERE WALLS OR PARTITIONS OF UNEQUAL THICKNESS ABUT, ALIGN COPLANAR EXPOSED FINISH SURFACES.
14. REFER TO CONTROL JOINT DETAILS FOR REQUIREMENTS OF CONTROL JOINTS IN CONJUNCTION WITH TYPICAL PARTITIONS.

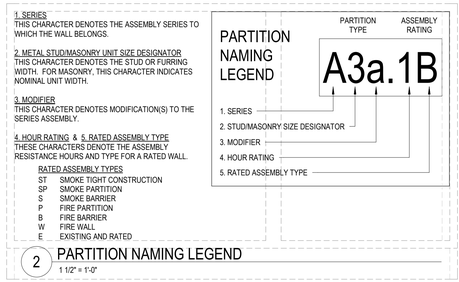
1 SERIES
THIS CHARACTER DENOTES THE ASSEMBLY SERIES TO WHICH THE WALL BELONGS.

2 METAL STUD/MASONRY UNIT SIZE DESIGNATOR
THIS CHARACTER DENOTES THE STUD OR FURRING WIDTH. FOR MASONRY, THIS CHARACTER INDICATES NOMINAL UNIT WIDTH.

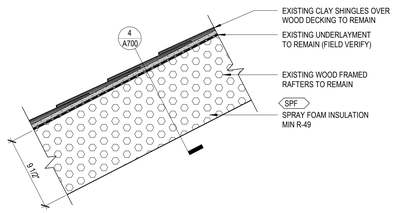
3 MODIFIER
THIS CHARACTER DENOTES MODIFICATION(S) TO THE SERIES ASSEMBLY.

4 HOUR RATING & 5 RATED ASSEMBLY TYPE
THESE CHARACTERS DENOTE THE ASSEMBLY RESISTANCE HOURS AND TYPE FOR A RATED WALL.

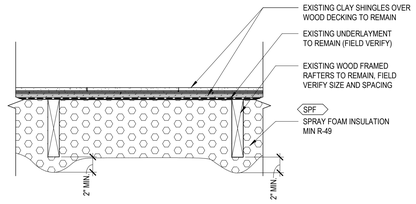
RATED ASSEMBLY TYPES
- ST SMOKE TIGHT CONSTRUCTION
- SP SMOKE PARTITION
- S SMOKE BARRIER
- P FIRE PARTITION
- B FIRE BARRIER
- W FIRE WALL
- E EXISTING AND RATED



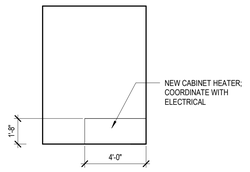
2 PARTITION NAMING LEGEND
1 1/2" = 1'-0"



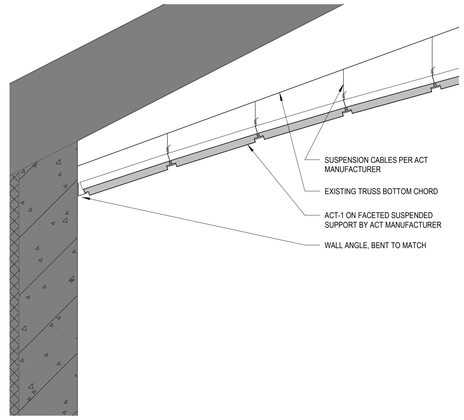
3 ROOF DETAIL - SPRAY FOAM
1 1/2" = 1'-0"



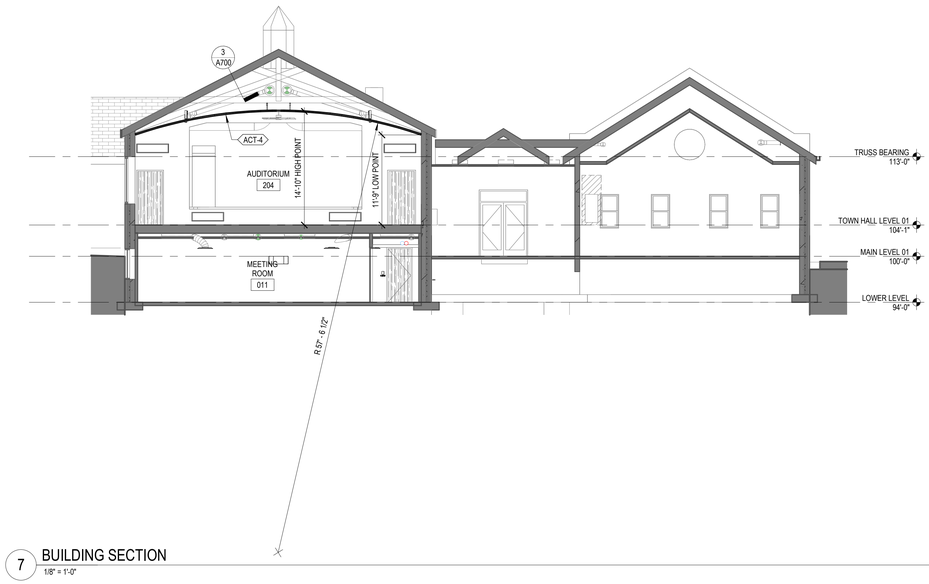
4 ROOF DETAIL - CROSS SECTION
1 1/2" = 1'-0"



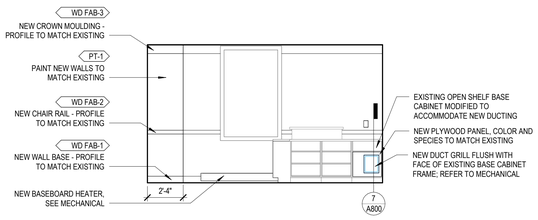
12 STAIR 002 ELEVATION
1/4" = 1'-0"



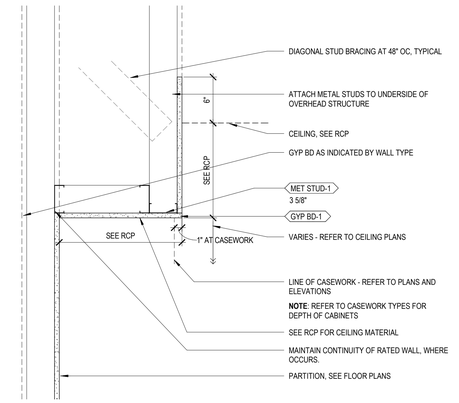
6 SECTION AT ACT-1 TERMINATION
1 1/2" = 1'-0"

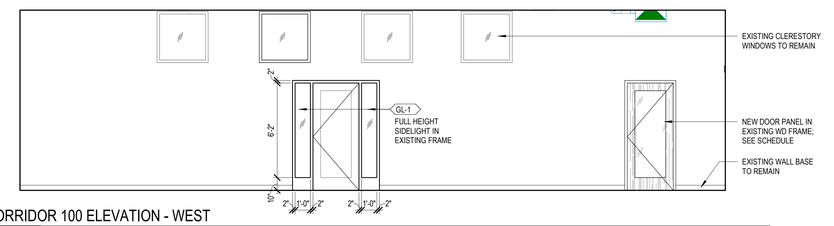


7 BUILDING SECTION
1/8" = 1'-0"

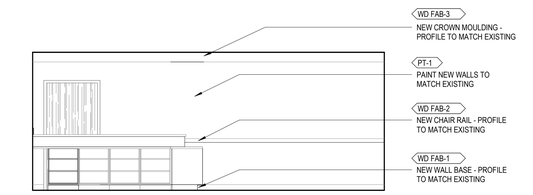


8 OFFICE ELEVATION - WEST
1/4" = 1'-0"





11 CORRIDOR 100 ELEVATION - WEST
1/4" = 1'-0"



9 OFFICE ELEVATION - NORTH
1/4" = 1'-0"

10 SECTION AT SOFFIT
1 1/2" = 1'-0"

HGA
7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

ARCHITECTURE
HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

ELECTRICAL ENGINEER
HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

MECHANICAL/ PLUMBING ENGINEER
HGA
7475 HUBBARD AVENUE
MIDDLETON, WI 53562
(608) 554-5333

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN
2392 COUNTY F
BAILEYS HARBOR, WI 54202

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 5410-001-00

INTERIOR SECTIONS, ELEVATIONS AND DETAILS

DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

A700

DOOR AND FRAME SCHEDULE

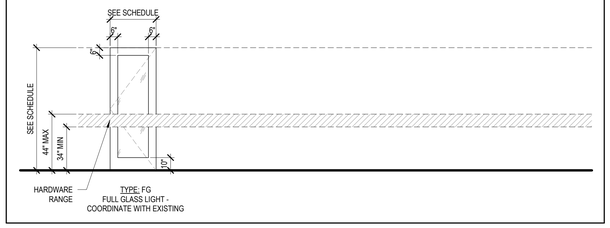
REV #	CURRENT REVISION	IDENTIFICATION		PANEL						FRAME					RATING	HDW GROUP	NOTES
		DOOR NUMBER	ROOM NAME	COUNT & WIDTH	HEIGHT	TYPE: PANEL A	TYPE: PANEL B	FINISH	GLAZING TYPE	TYPE	SIDELIGHT WIDTH	TRANSOM HEIGHT	FINISH	GLAZING TYPE			
MAIN LEVEL 01																	
		106	READING ROOM	(1) 3' - 0"	7' - 0"	WD-FG	--	WD-1	GL-1T	ETR	0' - 0"	0' - 0"	PT	--			3.
		107	LIBRARY	(1) 3' - 0"	7' - 0"	ETR	--	WD	--	ETR	1' - 0"	0' - 0"	WD	GL-1T			EXISTING DOOR TO REMAIN. REPLACE EXISTING HALF GLAZING AND WD LOUVRE WITH FULL HEIGHT GLAZING.

DOOR AND FRAME SCHEDULE NOTES:
1. ETR = EXISTING TO REMAIN
2. FINISH AND SPECIES TO MATCH EXISTING.
3. HARDWARE FROM EXISTING DOOR 106 TO BE RE-USED ON NEW DOOR.
4. EXISTING DOOR 106, TO BE DEMOLISHED, TO BE PROTECTED AND SALVAGED. PROVIDE DOOR TO OWNER FOR STORAGE.

DOOR TO MATCH ADJACENT
XXXX

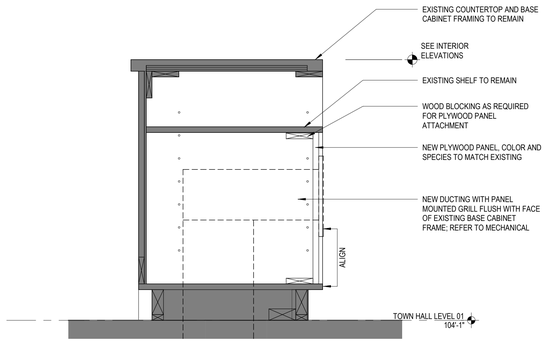
PANEL TYPES

REFER TO SCHEDULE FOR MATERIALS AND FINISHES



8 LEGEND - DOOR PANEL

1/4" = 1'-0"



7 Section 7

1 1/2" = 1'-0"

HGA

7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

ARCHITECTURE

HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

ELECTRICAL ENGINEER

HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

MECHANICAL/ PLUMBING ENGINEER

HGA
7475 HUBBARD AVENUE
MIDDLETON, WI 53562
(608) 554-5333

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN

2392 COUNTY F
BAILEYS HARBOR, WI 54202

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 5410-001-00

SCHEDULES & INTERIOR OPENING DETAILS - WOOD FRAME

DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

A800

Author 8/7/2025 4:54:48 PM Autodesk Docs://Bailey's Harbor_Geothermal Design_5410-001-00/A35_Bailey's Harbor Geothermal_5410-001-00.rvt

ABBREVIATIONS

A	
ABV	ABOVE
ACH	AIR CHANGE PER HOUR
AFF	ABOVE FINISHED FLOOR
AFMS	AIRFLOW MEASURING STATION
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY
AHJ	AUTHORITY HAVING JURISDICTION
ALT	ALTERNATE
AMP	AMPERE(S)
AP	ACCESS PANEL(S)
APD	AIR PRESSURE DROP
APPROX	APPROXIMATE, APPROXIMATELY
ARCH	ARCHITECT(URAL)
ASHRAE	AMERICAN SOCIETY OF HEATING, REGRIGERATION, AND AIR CONDITIONING ENGINEERS
AVG	AVERAGE
B	
BAS	BUILDING AUTOMATION SYSTEM
BFF	BELOW FINISHED FLOOR
BHP	BRAKE HORSEPOWER, BOILER HORSEPOWER
BMS	BUILDING MANAGEMENT SYSTEM
BOD	BOTTOM OF DUCT
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
C	
CA	COMPRESSED AIR
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CLG	CEILING
CO	CARBON MONOXIDE
CO2	CARBON DIOXIDE
COMB	COMBINATION
CONC	CONCRETE
COND	CONDENS(ATE)(ER)(ING)(ATION)
CONN	CONNECTION
CONT	CONTINU(E) (OUS) (ATION)
CONTR	CONTRACT(OR)
COP	CO-EFFICIENT OF PERFORMANCE
CORR	CORRIDOR
CPVC	CHLORINATED POLYVINYL CHLORIDE
CU FT	CUBIC FOOT (FEET)
CU IN	CUBIC INCH (ES)
D	
DB	DRY BULB
dBA	A-WEIGHTED SOUND PRESSURE DECIBELS
DDC	DIRECT DIGITAL CONTROL
DEG	DEGREE(S)
DEG-F	DEGREES FAHRENHEIT
DIA	DIAMETER
DMPR	DAMPER
DN	DOWN
DP	DIFFERENTIAL PRESSURE
DWG(S)	DRAWING(S)
DX	DIRECT EXPANSION
E	
(E)	EXISTING
EAT	ENTERING AIR TEMPERATURE
ECM	ELECTRONICALLY COMMUTATED MOTOR
EER	ENERGY EFFICIENCY RATIO
EFF	EFFICIENCY
EFT	ENTERING FLUID TEMPERATURE
ELEC	ELECTRIC(AL)
EMER	EMERGENCY
EQ	EQUAL
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
EXP	EXPLOSION
EXT	EXTERIOR
F	
F	FAHRENHEIT
F&T	FLOAT AND THERMOSTATIC (TRAP)
FA	FROM ABOVE
FB	FROM BELOW
FFA	FROM FLOOR ABOVE
FFB	FROM FLOOR BELOW
FFE	FINISHED FLOOR ELEVATION
FLA	FULL LOAD AMPERES
FLEX	FLEXIBLE
FLR	FLOOR
FM	FACTORY MUTUAL
FPD	FLUID PRESSURE DROP
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FREQ	FREQUENCY
FT	FOOT, FEET
FTG	FOOTING
FUT	FUTURE
G	
GA	GAUGE
GAL	GALLON(S)
GALV	GALVANIZED
GEN	GENERATOR
GPD	GALLON(S) PER DAY
GPH	GALLON(S) PER HOUR
GPM	GALLON(S) PER MINUTE
H	
HDPE	HIGH DENSITY POLYETHYLENE
HG	MERCURY
HP	HORSEPOWER
HR	HOUR
HTG	HEATING
HVAC	HEATING, VENTILATION AND AIR CONDITIONING
HZ	HERTZ, (FREQUENCY)
I	
ID	INSIDE DIAMETER/DIMENSION
IEER	INTEGRATED ENERGY EFFICIENCY RATIO
IGSHPA	INTERNATIONAL GROUND SOURCE HEAT PUMP ASSOCIATION
IMP	INSULATED METAL PANEL
IN	INCH(ES)
INSUL	INSULATION
ISOL	ISOLATOR
K	
KW	KILOWATT

L	
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LBS/HR	POUNDS PER HOUR
LF	LINEAL FOOT, FEET
LFT	LEAVING FLUID TEMPERATURE
LPS	LOW PRESSURE STEAM
LVR	LOUVER
LwA	A-WEIGHTED SOUND POWER DECIBELS
LWT	LEAVING WATER TEMPERATURE
M	
MAX	MAXIMUM
MBH	1,000 BTUH
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPACITY
MECH	MECHANICAL(LY)
MEZZ	MEZZANINE
MFR	MANUFACTURER
MFS	MAXIMUM FUSE SIZE
MIN	MINIMUM
MIN	MINUTE
MISC	MISCELLANEOUS
MOP, MOCP	MAX OVER CURRENT PROTECTION
MTR	MOTOR
N	
N/C	NORMALLY CLOSED
N/O	NORMALLY OPEN
NA, N/A	NOT APPLICABLE
NC	NOISE CRITERIA
NEC	NATIONAL ELECTRICAL CODE
NIC	NOT IN CONTRACT
NPS	NOMINAL PIPE SIZE
NPT	NATIONAL PIPE THREAD TAPERED
NTS	NOT TO SCALE
O	
OD	OUTSIDE DIAMETER/DIMENSION
ODP	OPEN DRIP PROOF
P	
PD	PRESSURE DROP
PEX	CROSS-LINKED POLYETHYLENE
PG	PROPYLENE GLYCOL
PLBG	PLUMBING
POC	POINT OF CONNECTION
POD	POINT OF DISCONNECTION
PPH	POUNDS PER HOUR
PPM	PARTS PER MILLION
PRES	PRESSURE
PSI	POUNDS PER SQUARE INCH
PSIG	PSI GAUGE
PVC	POLYVINYL CHLORIDE
R	
R	RADIUS
RCVR	RECEIVER
RECIRC	RECIRCULATE
REG	REGISTER
REQD	REQUIRED
REV	REVOLUTION(S)
RFO	ROOF OPENING
RH	RELATIVE HUMIDITY
RM	ROOM
RO	REVERSE OSMOSIS
RPM	REVOLUTIONS PER MINUTE
RPS	REVOLUTIONS PER SECOND
RPZ	REDUCED PRESSURE BACKFLOW PREVENTER
S	
SCCR	SHORT CIRCUIT CURRENT RATING
SCFM	CFM AT STANDARD CONDITIONS
SCH	SCHEDULE
SDR	STANDARD DIMENSIONAL RATIO
SENS	SENSIBLE
SF	SQUARE FEET
SLV	SLEEVE
SP	STATIC PRESSURE
SPD	SPEED
SPEC(S)	SPECIFICATION(S)
SQ	SQUARE
SS	STAINLESS STEEL
SSR	SOLID-STATE RELAYS
STD	STANDARD
STL	STEEL
STRUC	STRUCTURE(E) (AL)
T	
T	THERMOSTAT
TA	TO ABOVE
TB	TO BELOW
TCP	TEMPERATURE CONTROL PANEL
TEFC	TOTALLY ENCLOSED, FAN COOLED
TEMP	TEMPERATURE
TENV	TOTALLY ENCLOSED, NOT VENTILATED
TFA	TO FLOOR ABOVE
TFB	TO FLOOR BELOW
TOB	TOP OF BEAM
TOD	TOP OF DUCT
TOJ	TOP OF JOIST
TSP	TOTAL STATIC PRESSURE
TYP	TYP/CAL
U	
(U)	UNDERGROUND PIPE-SPECIFIC TYPE
UL	UNDERWRITER LABORATORIES
UNO	UNLESS NOTED OTHERWISE
V	
V	VOLTS
VB	VACUUM BREAKER
VDC	VOLTAGE DIRECT CURRENT
VENT	VENTILAT(ION) (OR)
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
W	
W	WATTS
W/	WITH
W/O	WITHOUT
WB	WET BULB
WC	WATER COLUMN
WG	WATER GAUGE
WPD	WATER PRESSURE DROP
WTR	WATER

NOTE:
REFER TO DUCTWORK AND PIPING SYSTEM DESIGNATIONS, CONTROL DRAWINGS, AND EQUIPMENT SCHEDULES FOR ADDITIONAL ABBREVIATIONS.
ALL GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET.
THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.

DUCTWORK SYMBOLS

- SA — SUPPLY AIR
- OA — OUTSIDE AIR
- MUA — MAKE UP AIR
- COMB — COMBUSTION AIR
- EA — EXHAUST AIR
- REF — RELIEF AIR
- GRS — GREASE EXHAUST
- FLUE — FLUE
- RA — RETURN AIR
- LINED DUCTWORK
- (E) 20x8 — EXISTING DUCT / TAG
- DEMOLISHED DUCT
- 20x8 — RECTANGULAR DUCT SIZE
- 20Ø — ROUND DUCT SIZE
- CONCENTRIC TRANSITION
- ECCENTRIC TRANSITION
- RECTANGULAR TO ROUND TRANSITION
- ELBOW UP - SA, OA, MAU, COMB
- ELBOW DN - SA, OA, MAU, COMB
- ELBOW UP - RA
- ELBOW DN - RA
- ELBOW UP - EA, GRS, FLUE, RLF
- ELBOW DN - EA, GRS, FLUE, RLF
- RECTANGULAR ELBOW WITH TURNING VANES
- RECTANGULAR ELBOW WITH OUT TURNING VANES
- RECTANGULAR OR ROUND 1.0 RADIUS ELBOW
- RECTANGULAR OR ROUND 1.5 RADIUS ELBOW
- SPIN-IN CONICAL TAP W/ VOLUME DAMPER
- BEVELED BRANCH TAKEOFF
- SPIN-IN CONICAL TAP
- DUCT BREAK / CONTINUATION
- RISE — RISE OFFSET, IN DIRECTION OF AIR FLOW
- DROP — DROP OFFSET, IN DIRECTION OF AIR FLOW
- ROUND FLEXIBLE DUCT - SINGLE LINE
- VOLUME DAMPER
- REMOTE VOLUME DAMPER
- R — BACKDRAFT DAMPER
- FIRE DAMPER
- FIRE/SMOKE DAMPER
- SMOKE DAMPER
- MOTORIZED DAMPER

MECHANICAL PIPING SYMBOLS

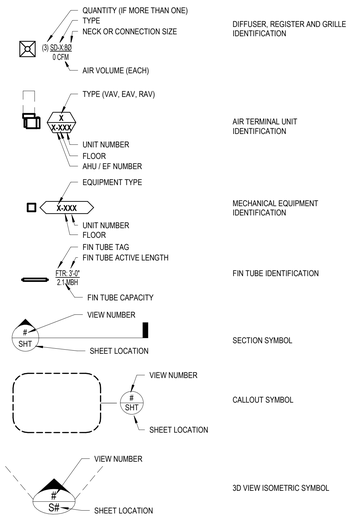
- GWS — GEOTHERMAL WATER SUPPLY
- GWR — GEOTHERMAL WATER RETURN
- HWR — HEATING WATER RETURN
- HWS — HEATING WATER SUPPLY
- CHWR — CHILLED WATER RETURN
- CHWS — CHILLED WATER SUPPLY
- CWR — CONDENSER WATER RETURN
- CWS — CONDENSER WATER SUPPLY
- FOF — FUEL OIL FILL
- FOR — FUEL OIL RETURN
- FOS — FUEL OIL SUPPLY
- FOT — FUEL OIL TRANSFER
- FOV — FUEL OIL VENT
- CD — CONDENSATE DRAIN
- PC — PUMPED CONDENSATE
- HPR — HIGH PRESSURE RETURN
- HPS — HIGH PRESSURE STEAM (16 PSIG AND ABOVE)
- SV — STEAM VENT
- LPR — LOW PRESSURE RETURN
- LPS — LOW PRESSURE STEAM (15 PSIG AND BELOW)
- RC — REFRIGERANT CIRCUIT (SUCTION AND DISCHARGE)
- RL — REFRIGERANT LIQUID
- RS — REFRIGERANT SUCTION
- MW — MAKE-UP WATER
- BFW — BOILER FEEDWATER
- NG — NATURAL GAS
- LPG — LIQUEFIED PROPANE GAS
- PGA — PROPANE GAS AIR (PROPANE/AIR MIXTURE)
- 6" — PIPE TAG
- (E) 6" — EXISTING PIPE TAG
- DEMOLISHED PIPE
- PIPE ELBOW UP
- PIPE ELBOW DN
- PIPE TEE UP / TOP CONNECTION
- PIPE TEE DN / BOTTOM CONNECTION
- CAPPED PIPE
- PIPE BREAK / CONTINUATION
- FLOW ARROW
- SHUTOFF VALVE
- BALANCE VALVE WITH TEST PLUGS
- 2 WAY, MODULATING VALVE
- 2 WAY, 2 POSITION VALVE
- CHECK VALVE
- AUTOMATIC FLOW CONTROL
- FLOW MEASURING DEVICE
- PRESSURE REDUCING VALVE
- 3 WAY, 2 POSITION VALVE
- 3 WAY MODULATING VALVE
- CONCENTRIC REDUCER
- PIPE GUIDE
- PIPE ANCHOR

- UNION
- REDUCED PRESSURE ZONE BACKFLOW PREVENTER
- RELIEF OR SAFETY VALVE
- FLEXIBLE CONNECTION
- AIR VENT
- SENSOR WELL
- TEST PLUG
- THERMOMETER
- STEAM TRAP
- STRAINER
- STRAINER WITH BLOWDOWN VALVE

GENERAL MECHANICAL SYMBOLS

- 4 — KEYNOTE
- CONNECT TO EXISTING
- POINT OF DISCONNECTION
- 9 — REVISION TRIANGLE
- DATUM
- RETURN, RELIEF, OR EXHAUST AIRFLOW DIRECTION ARROW
- SUPPLY OR OUTSIDE AIRFLOW DIRECTION ARROW
- Ø — DIAMETER
- ENLARGED PLAN AREA
- RADIANT FLOOR / SLAB HEAT HEAT AREA
- EXISTING BUILDING ARE NOT IN SCOPE
- POTENTIAL MULTI TRADE RACK
- GEOTHERMAL BOREHOLE
- CEILING SUPPLY GRILLE
- CEILING RETURN GRILLE
- CEILING EXHAUST GRILLE
- LINEAR SLOT DIFFUSER
- SIDEWALL SUPPLY GRILLE
- SIDEWALL RETURN / EXHAUST GRILLE
- CFM — AIRFLOW BALANCE TAG
- T — THERMOSTAT OR TEMP SENSOR
- TH — COMBINATION TEMP/HUMIDITY
- H — HUMIDISTAT / HUMIDITY SENSOR
- CO_2 — CARBON DIOXIDE SENSOR
- CO — CARBON MONOXIDE SENSOR
- SP — STATIC PRESSURE SENSOR
- S — SWITCH
- P — PRESSURE SENSOR
- P — PRESSURE CONTROLLER & MONITOR
- D — DISPLAY MONITOR
- O — OCCUPANCY SENSOR
- NO_2 — NITROGEN DIOXIDE SENSOR
- CH_4 — METHANE SENSOR
- H_2 — HYDROGEN SENSOR
- DP — DEWPOINT SENSOR
- SD — SMOKE DETECTOR
- S — SWITCH
- PD — PRESSURE DIFFERENTIAL SENSOR

MECHANICAL GENERAL SHEET ANNOTATIONS



THERMAL DESIGN CONTROLS

OUTDOOR DESIGN CONDITIONS
- WINTER OUTDOOR: 15° F
- SUMMER OUTDOOR: 87°F DB / 75°F WB

INDOOR DESIGN CONDITIONS
- GERNEAL:
  - SUMMER: 75° F, 60% RH
  - WINTER: 70° F
- STORAGE:
  - SUMMER: 80° F
  - WINTER: 65° F

MECHANICAL SHEET INDEX

SHEET NUMBER	SHEET NAME
14-MECHANICAL	
M000 - GENERAL	
M001	MECHANICAL ABBREVIATIONS, SYMBOLS, AND SHEET LIST
M050 - MECHANICAL SITE PLAN	
M050	GEOTHERMAL SITE PLAN
M100 - DEMOLITION FLOOR PLANS	
M100	MECHANICAL DEMOLITION PLAN - LOWER LEVEL
M101	MECHANICAL DEMOLITION PLAN - LEVEL 01
M102	MECHANICAL DEMOLITION PLAN - LEVEL 02
M200 - HVAC AIRFLOW PLANS	
M200	HVAC FLOOR PLAN - LOWER LEVEL
M201	HVAC FLOOR PLAN - LEVEL 01
M202	HVAC FLOOR PLAN - LEVEL 02

MECHANICAL SHEET INDEX

SHEET NUMBER	SHEET NAME
M300 - MECHANICAL PIPING FLOOR PLANS	
M300	PIPING FLOOR PLAN - LOWER LEVEL
M301	PIPING FLOOR PLAN - LEVEL 01
M400 - ENLARGED PLANS & SECTIONS	
M400	ENLARGED MECHANICAL PLANS AND SECTIONS
M700 - MECHANICAL DETAILS	
M700	MECHANICAL DETAILS
M701	MECHANICAL DETAILS
M702	GEOTHERMAL DETAILS
M800 - MECHANICAL SCHEDULES	
M800	MECHANICAL SCHEDULES
Grand total: 15	

MECHANICAL DEMOLITION NOTES

A. VERIFY EXISTING CONDITIONS AND DIMENSIONS. COORDINATE THE EXTENT OF DEMOLITION WORK AND EXISTING WORK TO REMAIN WITH NEW FLOOR PLAN AND PROJECT SITE PRIOR TO PRICING, FABRICATION, AND INSTALLATION. NOTIFY ENGINEER OF ANY CONFLICTS IMMEDIATELY.
B. WHERE WALLS OR PARTITIONS ARE INDICATED TO BE REMOVED, REMOVE ENTIRE WALL OR PARTITIONS AS WELL AS DUCTS, PIPING, CONDUITS, AND OTHER ELEMENTS IN OR ON THEM WHICH MAY OR MAY NOT BE SPECIFICALLY IDENTIFIED, UNLESS OTHERWISE NOTED. COORDINATE WITH OWNER ALL EQUIPMENT TO BE SALVAGED.
C. REFER TO ARCHITECTURAL, STRUCTURAL, AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION NOTES.
D. REPAIR / PATCH OPENINGS IN WALLS, PARTITIONS, FLOORS, AND CEILINGS THAT ARE EXISTING OR WHERE DEMOLITION OCCURS TO MATCH EXISTING ADJACENT FINISH SURFACE. MAINTAIN CODE AND FIRE RATING REQUIREMENTS.
E. AVOID DISRUPTION TO ADJACENT FLOORS / AREAS AS MUCH AS POSSIBLE. KEEP NOISE TO A LEVEL ACCEPTABLE TO THE OWNER BY SCHEDULING EXCESSIVE NOISE TASKS WITH OWNER. ALL SAW-CUTTING AND NOISE / VIBRATION PRODUCING CONSTRUCTION TO BE SCHEDULED WITH OWNER AS NOT TO INTERFERE WITH BUILDING OPERATIONS. THIS MAY REQUIRE AFTER HOURS WORK.
F. ALL SHUTDOWNS OF MECHANICAL, SPRINKLER, FIRE ALARM, AND / OR ELECTRICAL SYSTEMS SHALL BE COORDINATED WITH OWNER AND MAY OCCUR DURING NON-BUSINESS HOURS.
G. PRIOR TO REMOVAL OF ANY MECHANICAL ITEMS, EQUIPMENT, ETC. FROM BUILDING, CONFIRM WITH OWNER IF ITEMS ARE TO BE RETURNED TO OWNER OR REMOVED. RETURN TO OWNER IF REQUESTED, OTHERWISE, REMOVE FROM SITE AND DISPOSE.
H. CAP, SEAL, AND INSULATE PIPING AND DUCTWORK IMPACTED BY SCOPE OF WORK.
I. WHERE CONNECTING TO EXISTING SYSTEMS OR RECONFIGURING EXISTING SYSTEMS, MEASURE AND DOCUMENT PERFORMANCE OF SYSTEMS PRIOR TO WORK.

MECHANICAL GENERAL NOTES

A. ALL PENETRATIONS THROUGH FIRE-RATED WALLS AND FLOORS SHALL BE REVIEWED AND APPROVED BY ARCHITECT/ENGINEER PRIOR TO INSTALLATION.
B. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS, SPECIFICATIONS, AND AS REQUIRED BY APPLICABLE CODES AND STANDARDS.
C. INSTALL ALL MECHANICAL EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURERS' RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND STANDARDS.
D. CONTRACT DRAWINGS ARE DIAGRAMMATIC ONLY, AND ARE INTENDED TO PROVIDE SCOPE AND GENERAL ARRANGEMENT ONLY. DO NOT SCALE OFF OF THE DRAWINGS.
E. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE EXACT ROUTING OF ALL SERVICES WITH ALL OTHER TRADES.
F. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL REQUIRED CLEARANCES FOR ACCESS TO VAV BOX CONTROL PANELS & ACCESS DOORS, BALANCING DAMPERS, DAMPER & CONTROL VALVE ACTUATORS, AND ANY OTHER ITEM THAT REQUIRES SERVICE ACCESS.
G. MAINTAIN A MINIMUM 6'-8" CLEARANCE TO THE UNDERSIDE OF ALL INSTALLED DUCTWORK, PIPING, CONDUITS, AND EQUIPMENT IN ACCESS ROUTES IN MECHANICAL ROOMS UNLESS NOTED OTHERWISE ON DRAWINGS.
H. WHERE TWO OR MORE ITEMS OF THE SAME EQUIPMENT ARE REQUIRED, THE PRODUCT OF ONE MANUFACTURER SHALL BE USED.
I. MECHANICAL EQUIPMENT, DUCTWORK, AND PIPING SUPPORTS TO BE COORDINATED WITH STRUCTURAL DRAWINGS FOR ALLOWANCES.
J. LOCATIONS AND SIZES OF ALL FLOOR, WALL, AND ROOF OPENINGS SHALL BE COORDINATED WITH ALL OTHER TRADES INVOLVED.
K. ALL DUCT AND PIPE PENETRATIONS IN RATED WALLS SHALL BE SEALED AND/OR FIRESTOPPED AS REQUIRED.
L. REFER TO TYPICAL DETAILS FOR ALL DUCTWORK, PIPING, AND EQUIPMENT INSTALLATION.
M. THERMOSTATS AND OTHER CONTROL DEVICES SHOWN ON MECHANICAL PLANS ARE GENERAL LOCATIONS ONLY. COORDINATE EXACT LOCATIONS WITH ARCHITECTURAL ELEVATIONS. INSTALL PER ADA REQUIREMENTS FOR ALL DEVICES THAT ARE INTENDED TO BE OPERATED BY THE OCCUPANT.
N. COORDINATE FINAL LOCATIONS OF ALL VARIABLE SPEED DRIVES WITH DIVISION 26 CONTRACTOR
O. ACCESS PANELS ARE INDICATED ON ARCHITECTURAL DRAWINGS AND SPECIFICATIONS. ANY EQUIPMENT, VALVES, FIELD DEVICES, ETC. NEEDING AN ACCESS PANEL NOT INDICATED ON THE DRAWINGS SHALL ALSO BE PROVIDED, AND SUBMITTED TO THE ARCHITECT/ GENERAL CONTRACTOR FOR APPROVAL OF PANEL SIZE, DETAIL, AND PANEL LOCATION PRIOR TO, INSTALLATION OF ITEM REQUIRING ACCESS.
P. IN ALL AREAS WITH EXPOSED CEILINGS, SPECIAL CARE MUST BE TAKEN IN THE INSTALLATION OF PIPING AND ANY OTHER MECHANICAL / PLUMBING EQUIPMENT. LAYOUTS MUST BE ARRANGED TO COMPLIMENT THE AESTHETICS OF THE SPACE. REFER ALSO TO ARCHITECTURAL DRAWINGS, SPECIFICATIONS, AND COORDINATION REQUIREMENTS FOR FURTHER INFORMATION FOR AESTHETIC INTENTS AND PAINTING REQUIREMENTS IN EXPOSED AREAS.
Q. DUCTWORK, HYDRONIC PIPING SHALL BE INSULATED TO AT LEAST MINIMUM INSULATION LEVELS REQUIRED IN THE MOST CURRENT STATE ENERGY CODE AT THE TIME OF THE BIDDING.
R. MOTORIZED DAMPERS ARE REQUIRED AT ALL DUCTWORK PENETRATIONS TO EXTERIOR AND TO INTAKE / RELIEF PLENUMS. DAMPERS SHALL BE INTERLOCKED WITH ASSOCIATED SYSTEM OPERATION. INSULATE DUCTWORK FROM EXTERIOR AS DESCRIBED IN SPECIFICATIONS.
S. WHERE CONNECTING TO EXISTING SYSTEMS OR RECONFIGURING EXISTING SYSTEMS, MEASURE AND DOCUMENT IMPACTED SYSTEMS PRIOR TO START OF WORK. AT COMPLETION OF WORK, BALANCE/ADJUST SYSTEM SO THAT IMPACTED SYSTEM MEETS PERFORMANCE CONDITIONS ON PLANS.

SHEET METAL NOTES

A. ALL DUCTWORK DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS. CONTRACTOR SHALL UPSIZE DUCTWORK TO ACCOMMODATE INTERNAL LINER WHERE REQUIRED IN SPECIFICATIONS OR SHOWN ON DRAWINGS. REFER TO SPECIFICATIONS FOR INSULATION REQUIREMENTS.
B. SUPPLY DUCT TO INLET OF VAV BOXES SHALL MATCH THE VAV BOX INLET FOR A MINIMUM OF THREE DUCT DIAMETERS.
C. DUCT RUN-OUTS FROM VAV BOX TO DIFFUSERS ARE TO BE ROUND SPIN-IN TAKE-OFF COMPLETE WITH VOLUME DAMPER. RUN-OUT SIZE IS TO BE THE SAME AS THE INLET NECK SIZE OF THE DIFFUSER UNLESS NOTED OTHERWISE.
D. ALL DUCT CONNECTIONS TO VAV BOXES SHALL BE THE SIZE OF THE VAV BOX CONNECTION UNLESS NOTED OTHERWISE.
E. PROVIDE MANUAL BALANCING DAMPERS AT ALL BRANCH TAKE-OFFS TO AND FROM GRILLES AND DIFFUSERS.
F. COORDINATE DIFFUSER AND GRILLE LOCATIONS WITH ARCHITECTURAL CEILING PLANS, LIGHTING, AND ALL OTHER TRADES, MAKING MINOR DUCT MODIFICATIONS AS NEEDED.
G. PROVIDE ALL SUPPLY 90-DEGREE SQUARE ELBOWS WITH AIRFOIL TURNING VANES UNLESS NOTED OTHERWISE.
H. PROVIDE FLEXIBLE CONNECTIONS IN ALL DUCTWORK SYSTEMS CONNECTED TO EQUIPMENT THAT REQUIRES VIBRATION ISOLATION. FLEXIBLE CONNECTIONS SHALL BE PROVIDED AT THE POINT OF CONNECTION TO THE EQUIPMENT UNLESS NOTED OTHERWISE.
I. FLEXIBLE DUCTWORK RUN-OUTS TO DIFFUSERS SHALL NOT EXCEED FIVE FEET.
J. BOTTOMS OF ALL LOW EXHAUST/RETURN GRILLES SHALL BE MINIMUM 8" AFF. GRILLE BLADES SHALL RUN HORIZONTAL.
K. UNLESS NOTED OTHERWISE, ALL DUCT PENETRATIONS THROUGH FLOOR SLABS SHALL BE PROTECTED WITH A COMBINATION FIRE/SMOKE DAMPER.
L. OUTDOOR AIR INTAKES SHALL BE LOCATED A MINIMUM 25' FROM ANY EXHAUST DISCHARGE, PLUMBING VENT, OR SIMILAR.
M. THE HVAC CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL OPEN ENDS OF BOTH INSTALLED AND UNINSTALLED DUCTWORK.
N. ALL DUCTWORK CROSSING BUILDING EXPANSION JOINTS SHALL BE INSTALLED WITH FLEXIBLE CONNECTIONS PER PROJECT DETAILS AND SPECIFICATIONS.

MECHANICAL AIRFLOW NOTES

A. ALL RETURN / EXHAUST AIRFLOW CFM'S IN PRESSURE DEPENDENT ROOMS ARE STARTING POINTS. TAB CONTRACTOR TO BALANCE ROOM TO MAINTAIN PROPER PRESSURE RELATIONSHIP. FINAL CFM TO BE DETERMINED BY TAB
B. AFTER BALANCING, THIS INCLUDES SPACES ON OTHER SIDE OF DOORS WHERE PRESSURE DIFFERENTIAL IS MONITORED.
C. CONTROL SENSORS CONNECT TO THE VAV INDICATED BY THE VAV ZONE UNLESS NOTED OTHERWISE
D. PROVIDE INSULATED BACKPLATE FOR CONTROL SENSORS ON EXTERIOR WALLS OR COLUMNS.
E. PLACE ALL DIV 23 OCCUPANCY SENSORS IN CEILING
F. REFER TO ARCHITECTURAL ELEVATIONS FOR SENSOR ELEVATIONS AND DIMENSIONS.

MECHANICAL PIPING NOTES

A. ALL PIPING DIMENSIONS SHOWN ARE NOMINAL PIPE SIZES. REFER TO SPECIFICATIONS FOR INSULATION REQUIREMENTS.
B. UNLESS NOTED OTHERWISE, ALL CHILLED AND HEATING WATER PIPING SHALL BE MINIMUM 3/4" DIAMETER.
C. PIPE RUN-OUTS TO MECHANICAL EQUIPMENT ARE FOUND IN RESPECTIVE SCHEDULES.
D. COORDINATE ALL MAKE-UP WATER CONNECTIONS WITH PLUMBING .
E. CLEARWATER CONDENSATE DRAIN PIPING TO BE 3/4" MINIMUM UNLESS NOTED OTHERWISE. COORDINATE DRAINAGE POINT WITH PLUMBING.
F. PROVIDE AIR VENTS AT ALL LOCAL HIGH POINTS AND DRAIN VALVES AT ALL SYSTEM LOW POINTS, INCLUDING BOTTOMS OF RISERS.
G. INSTALL PIPING SUCH THAT ALL VALVES, STRAINERS, UNIONS, TRAPS, FLANGES, AND ANY DEVICES REQUIRING ACCESS ARE ACCESSIBLE. INSTALL ALL DEVICES THAT REQUIRE VISUAL ACCESS (THERMOSTATS, CONTROL VALVES, ETC) SUCH THAT THEY MAY BE EASILY OBSERVED. ALL GAUGE ISOLATION VALVES SHOULD BE INSTALLED WITHIN 6' OF FINISHED FLOOR.
H. ALL BALANCING AND BUTTERFLY VALVES SHALL HAVE POSITION INDICATORS AND MEMORY STOPS.
I. ALL VALVES (EXCEPT CONTROL VALVES) AND STRAINERS SHALL BE THE FULL SIZE OF THE PIPE BEFORE REDUCING IN SIZE TO MAKE CONNECTIONS TO EQUIPMENT AND CONTROL VALVES.
J. PROVIDE FLEXIBLE CONNECTIONS IN ALL PIPING SYSTEMS CONNECTED TO PUMPS, CHILLERS, AND OTHER EQUIPMENT REQUIRING VIBRATION ISOLATION (EXCEPT COILS). PROVIDE CONNECTIONS AT EQUIPMENT TO BE ISOLATED. ALL PIPING CROSSING BUILDING EXPANSION JOINTS AND REQUIRING THERMAL EXPANSION COMPENSATION SHALL BE PROVIDED WITH EXPANSION LOOPS PER SPECIFICATIONS.
K. PROVIDE AND EXTEND CONDENSATE DRAIN PIPING FROM ALL EQUIPMENT WITH CONDENSATE CONNECTIONS TO NEAREST SINK P-TRAP WITH WYE FITTING, NEAREST JANITOR CLOSET, OR FLOOR DRAIN. PROVIDE ACCESS COVER UNDER SINK FOR ACCESS. ROUTE ALL PIPING SO AS TO NOT INTERFERE WITH JANITOR CLOSET OR FLOOR DRAIN. SLOPE CONDENSATE PIPING AT MIN 1/4" PER 1'-0".

HGA
7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

MECHANICAL/ELECTRICAL/ PLUMBING ENGINEER
HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN
2392 COUNTY F
BAILEYS HARBOR, WI 54202

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 5410-001-00

MECHANICAL ABBREVIATIONS, SYMBOLS, AND SHEET LIST

DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

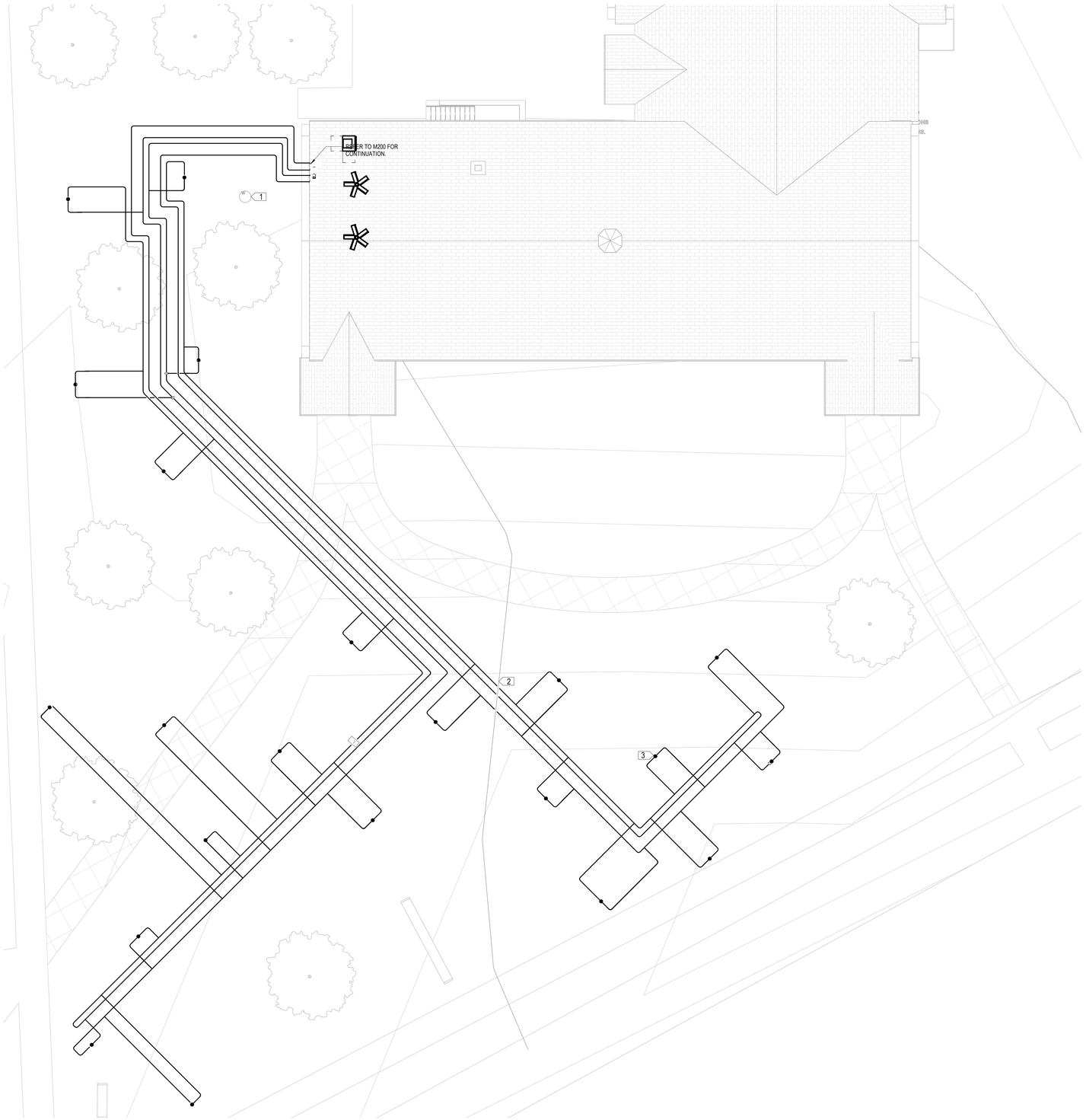
M001

Author
8/7/2025 4:09:46 PM Autodesk Docs://Bailey's Harbor Geothermal Design_5410-001-00/M25_Bailey's Harbor Geothermal_5410-001-00.rvt

VERTICAL GROUND HEAT EXCHANGER PERFORMANCE DATA

BOREHOLE(S)					COOLING MODE								HEATING MODE									
					LOAD SIDE			GROUND SOURCE SIDE					LOAD SIDE			GROUND SOURCE SIDE						
QUANTITY	INDIVIDUAL LENGTH (FT)	TOTAL BORE LENGTH (FT)	EXTERNAL SYSTEM VOLUME (GAL)	FLUID TYPE	CAPACITY (MBH)	EQUIVALENT FULL LOAD HOURS	HEAT PUMP EFFICIENCY (EER)	CAPACITY (MBH)	DESIGN LFT (°F)	MAX EFT (°F)	DESIGN FLOW RATE (GPM)	EXTERNAL HEAD LOSS (FT)	CAPACITY (MBH)	EQUIVALENT FULL LOAD HOURS	HEAT PUMP EFFICIENCY (COP)	CAPACITY (MBH)	DESIGN LFT (°F)	MIN EFT (°F)	DESIGN FLOW RATE (GPM)	EXTERNAL HEAD LOSS (FT)	25 YR GROUND TEMP CHANGE (°F)	NOTES
22	320	7,040	1000	25% PG	256	640	9.7	346	87	98	117	55	400	950	2.5	238	30	25	117	55	-1.25	1, 2, 3, 4

NOTES:
1. TOTAL BOREFIELD LENGTH IS CALCULATED FROM ASHRAE METHODOLOGY FOR DESIGN OF VERTICAL GROUND HEAT EXCHANGER SYSTEMS.
2. LFT REFERS TO THE GEOTHERMAL SUPPLY FLUID FROM THE BOREFIELD.
3. EFT REFERS TO THE GEOTHERMAL RETURN FLUID TO THE BOREFIELD.
4. EXTERNAL SYSTEM VOLUME IS AN APPROXIMATION. CONTRACTOR IS RESPONSIBLE TO PROVIDE THE FLUID QUANTITY REQUIRED TO FILL AND PRESSURIZE THE SYSTEM



2 GEOTHERMAL SITE PLAN
1/8" = 1'-0"

DIGGERS HOTLINE®

Dial 811 or (800) 242-8511
www.DiggersHotline.com
WIS STATUTE 182.0175(1974)
REQUIRES MIN. 3 WORK DAYS
NOTICE BEFORE YOU EXCAVATE

GENERAL NOTES

A. THE GEOTHERMAL CONTRACTOR IS REQUIRED TO VISIT THE SITE AND TAKE NOTE OF ALL EXISTING CONDITIONS THAT MAY AFFECT THIS WORK AND BE RESPONSIBLE FOR KNOWLEDGE OF SAME IN PREPARATION OF THIS BID. CONTRACTOR TO ALSO FAMILIARIZE THEMSELVES WITH GROUND FORMATIONS TO DEPTH OF VERTICAL BORES PLUS MINIMUM GROUND COVER DEPTH IN THE AREA OF THE PROPOSED GEOTHERMAL BOREFIELD. LACK OF INFORMATION ON EXISTING CONDITIONS SHALL NOT BE ALLOWED AS A VALID CAUSE FOR ADDITIONAL COMPENSATION.
B. THE GEOTHERMAL CONTRACTOR SHALL DETERMINE THE OPTIMAL LOCATION FOR GEOTHERMAL PIPING BETWEEN THE BOREFIELD AND BUILDING. LAYOUT SHOWN IS DIAGRAMMATIC.
C. ROUTE ALL GEOTHERMAL PIPING TO AVOID CONFLICTS AND PROVIDE THE REQUIRED VERTICAL AND HORIZONTAL SEPARATION DISTANCES WITH NEW AND EXISTING UTILITIES. BEFORE BEGINNING EXCAVATION, NOTIFY THE LOCAL ONE-CALL PUBLIC UTILITY LOCATING SERVICE AND COORDINATE ALL UNDERGROUND WORK. THIS INCLUDES BUT IS NOT LIMITED TO LOCATIONS OF BOUNDARIES, EASEMENTS, UNDERGROUND UTILITIES, AND POLE BASES. REFERENCE CIVIL AND ELECTRICAL DRAWINGS FOR SITE UTILITY TYPES, LOCATIONS, AND ELEVATIONS FOR COORDINATION. ALSO REFERENCE SHEET A050 FOR EXISTING SITE CONDITIONS.
D. THE GEOTHERMAL CONTRACTOR SHALL GENERATE A AND ADHERE TO THE SITE EROSION CONTROL PLAN AND ENSURE THAT ALL WATER DISCHARGE AND DRILLING SOILING REMAIN ON SITE DURING CONSTRUCTION. CONTRACTOR SHALL USE TEMPORARY SETTLING BASINS, BERMS, AND ALL MEANS AND METHODS NECESSARY TO AVOID SITE RUNOFF. SPOILS SHALL BE EXCAVATED AND DISPOSED OF TO RETURN ALL SOILS TO THEIR DESIGN CONDITION.
E. SEE SPECIFICATIONS FOR RESULTS OF 320' TEST BORES PERFORMED IN JUNE 03, 2025.
F. REFERENCE SECTION 237905 FOR ADDITIONAL DETAILS ON DRILLING, GROUTING, PIPING, EARTHWORK, AND SITE RESTORATION.

KEYNOTES

#	DESCRIPTION

1. EXISTING DOMESTIC WATER WELL. MAINTAIN 10' FROM NEW GEOTHERMAL WELLS. REFER TO 3/M702 FOR SITE UTILITY SEPARATION REQUIREMENTS.
2. EXISTING SANITARY UTILITY PIPING. MAINTAIN 2' VERTICAL SEPARATION FROM NEW GEOTHERMAL MAIN PIPING AND 10' FROM NEW GEOTHERMAL WELLS. REFER TO 3/M702 FOR SITE UTILITY SEPARATION REQUIREMENTS.
3. TEST BORE LOCATED AT N 45.06598°, W 87.12402° DRILLED JUNE 03, 2025.

HGA
7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

MECHANICAL/ELECTRICAL/ PLUMBING ENGINEER

HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN

2392 COUNTY F
BAILEYS HARBOR, WI 54202

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 5410-001-00

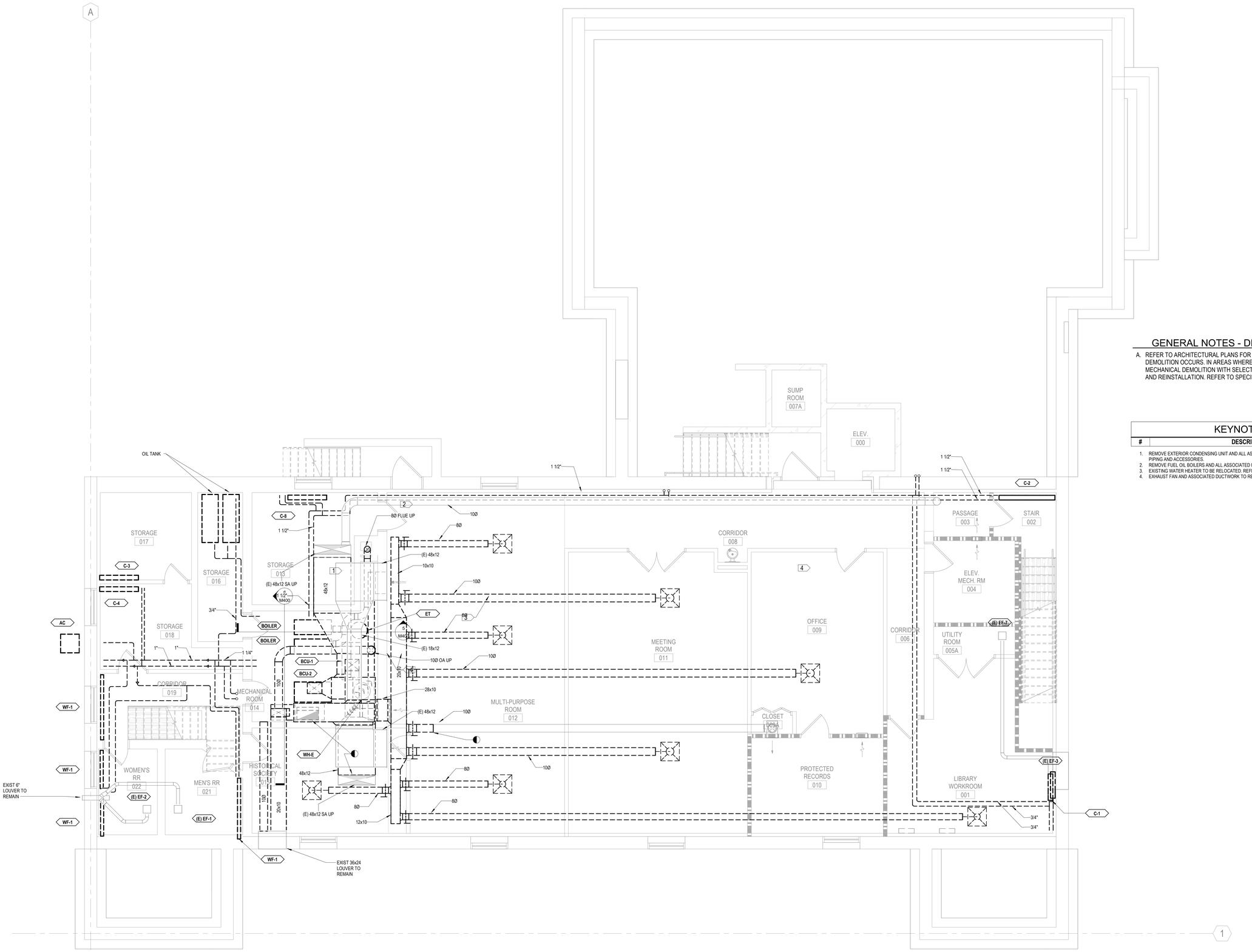
GEOTHERMAL SITE PLAN

DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

M050

Author 8/7/2025 4:09:46 PM Autodesk Docs://Bailey's Harbor, Geothermal Design_5410-001-00/M25_Bailey's Harbor Geothermal_5410-001-00.rvt



GENERAL NOTES - DEMOLITION PLAN

A. REFER TO ARCHITECTURAL PLANS FOR AREAS WHERE CEILING DEMOLITION OCCURS. IN AREAS WHERE CEILING TO REMAIN COORDINATE MECHANICAL DEMOLITION WITH SELECTIVE CEILING REMOVAL, STORAGE, AND REINSTALLATION. REFER TO SPECIFICATION SECTION 024120.

KEYNOTES

#	DESCRIPTION
1.	REMOVE EXTERIOR CONDENSING UNIT AND ALL ASSOCIATED REFRIGERANT AND SUCTION PIPING AND ACCESSORIES.
2.	REMOVE FUEL OIL BOILERS AND ALL ASSOCIATED PIPING AND ACCESSORIES.
3.	EXISTING WATER HEATER TO BE RELOCATED. REFER TO M200 FOR NEW LOCATION.
4.	EXHAUST FAN AND ASSOCIATED DUCTWORK TO REMAIN.

1 MECHANICAL DEMOLITION PLAN - LOWER LEVEL 01
1/4" = 1'-0"

HGA

7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

MECHANICAL/ELECTRICAL/ PLUMBING ENGINEER

HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN

2392 COUNTY F
BAILEYS HARBOR, WI 54202

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

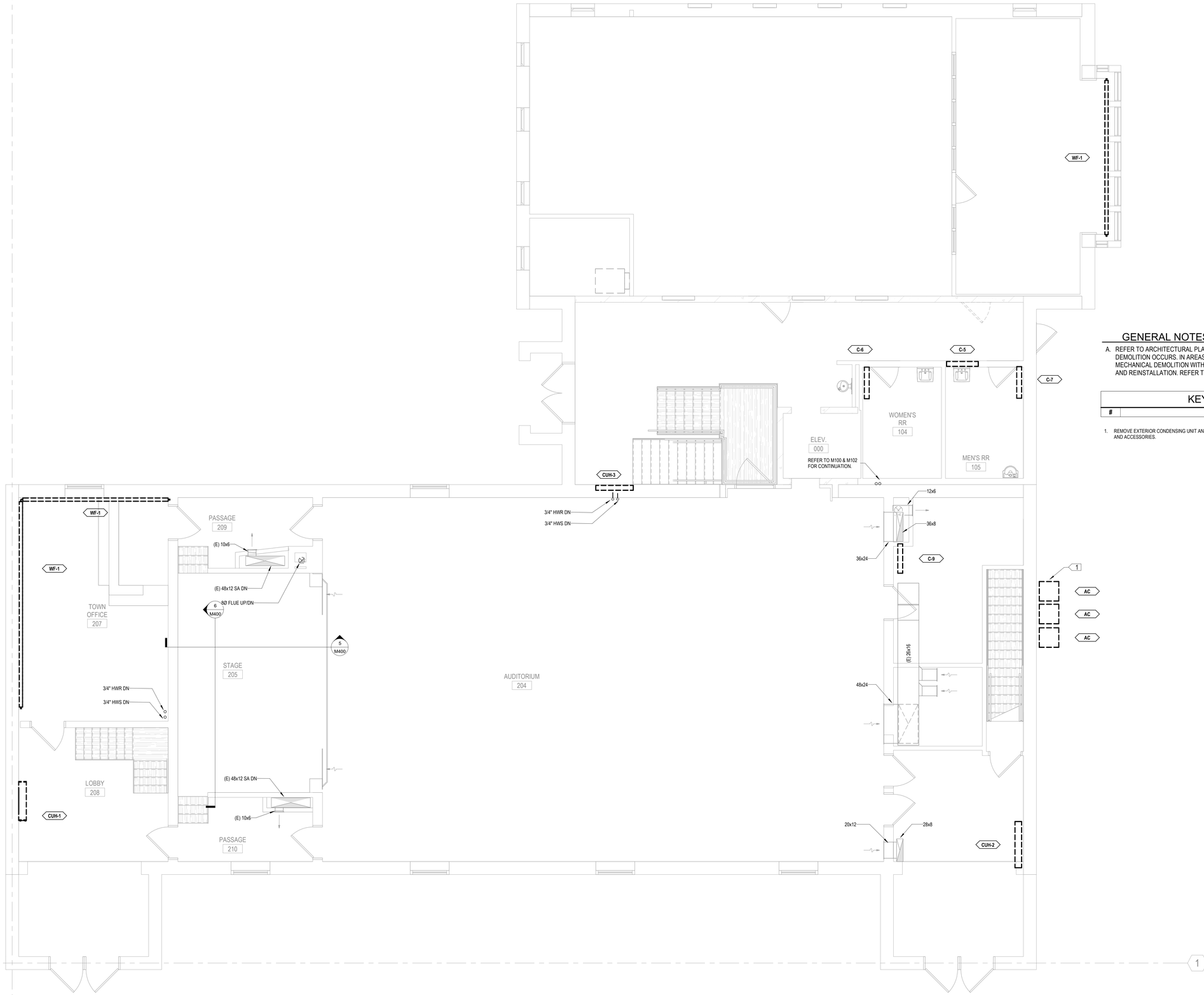
HGA NO: 5410-001-00

MECHANICAL DEMOLITION PLAN - LOWER LEVEL

DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

M100



1 MECHANICAL DEMOLITION PLAN - LEVEL 01
1/4" = 1'-0"

GENERAL NOTES - DEMOLITION PLAN

A. REFER TO ARCHITECTURAL PLANS FOR AREAS WHERE CEILING DEMOLITION OCCURS. IN AREAS WHERE CEILING TO REMAIN COORDINATE MECHANICAL DEMOLITION WITH SELECTIVE CEILING REMOVAL, STORAGE, AND REINSTALLATION. REFER TO SPECIFICATION SECTION 024120.

KEYNOTES

#	DESCRIPTION
1.	REMOVE EXTERIOR CONDENSING UNIT AND ALL ASSOCIATED REFRIGERANT AND SUCTION PIPING AND ACCESSORIES.

HGA
333 East Erie Street
Milwaukee, Wisconsin 53202
Telephone 414.278.8200

BAILEYS HARBOR TOWN HALL

2392 COUNTY F,
BAILEYS HARBOR, WI
54202

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

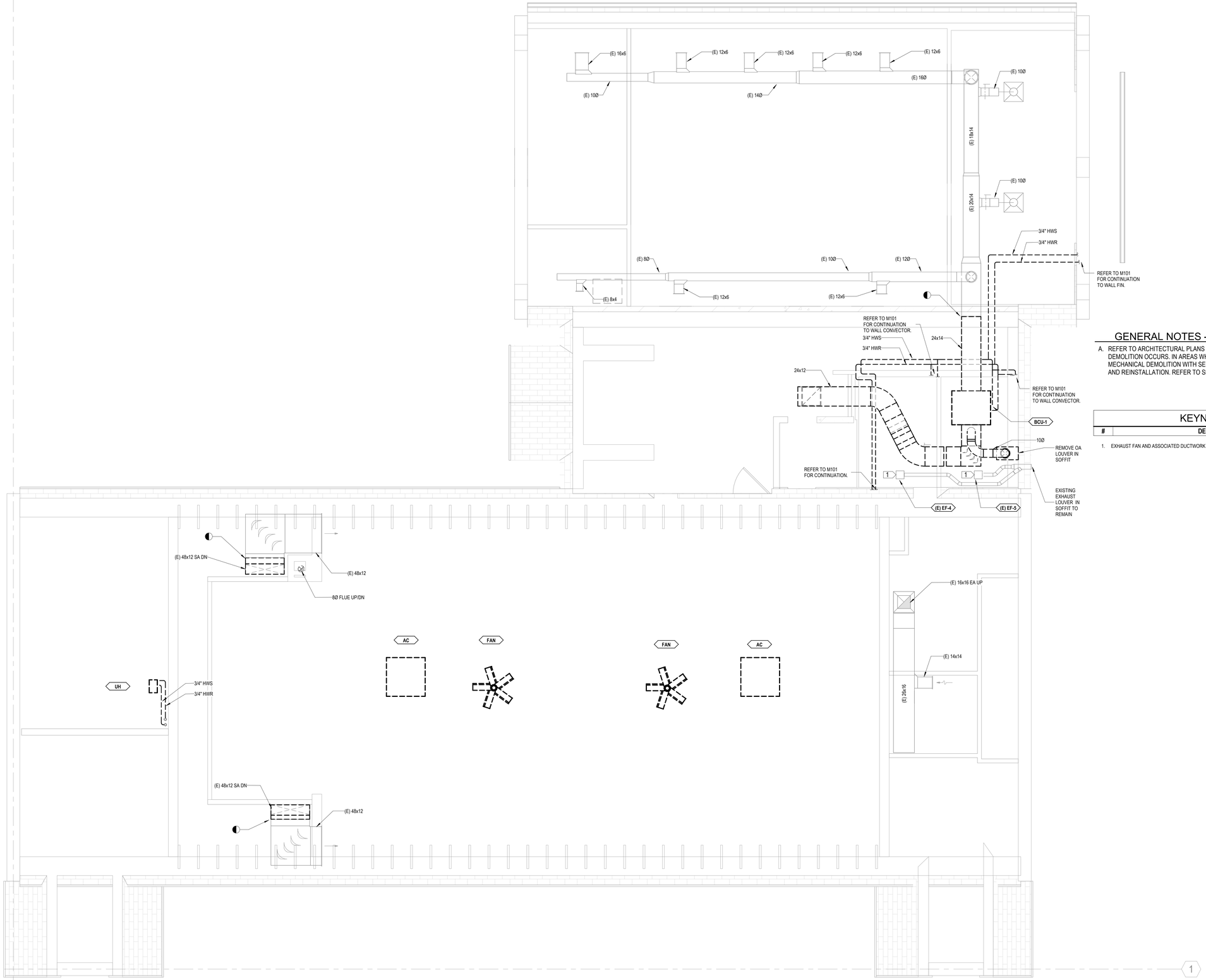
HGA NO: 5410-001-00

MECHANICAL DEMOLITION PLAN - LEVEL 01

DATE: 07/31/2025

OWNER REVIEW SET

M101



1 MECHANICAL DEMOLITION PLAN - LEVEL 02
1/4" = 1'-0"

GENERAL NOTES - DEMOLITION PLAN

A. REFER TO ARCHITECTURAL PLANS FOR AREAS WHERE CEILING DEMOLITION OCCURS. IN AREAS WHERE CEILING TO REMAIN COORDINATE MECHANICAL DEMOLITION WITH SELECTIVE CEILING REMOVAL, STORAGE, AND REINSTALLATION. REFER TO SPECIFICATION SECTION 024120.

KEYNOTES

#	DESCRIPTION
1.	EXHAUST FAN AND ASSOCIATED DUCTWORK TO REMAIN.

HGA

7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

MECHANICAL/ELECTRICAL/ PLUMBING ENGINEER

HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN

2392 COUNTY F
BAILEYS HARBOR, WI 54202

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

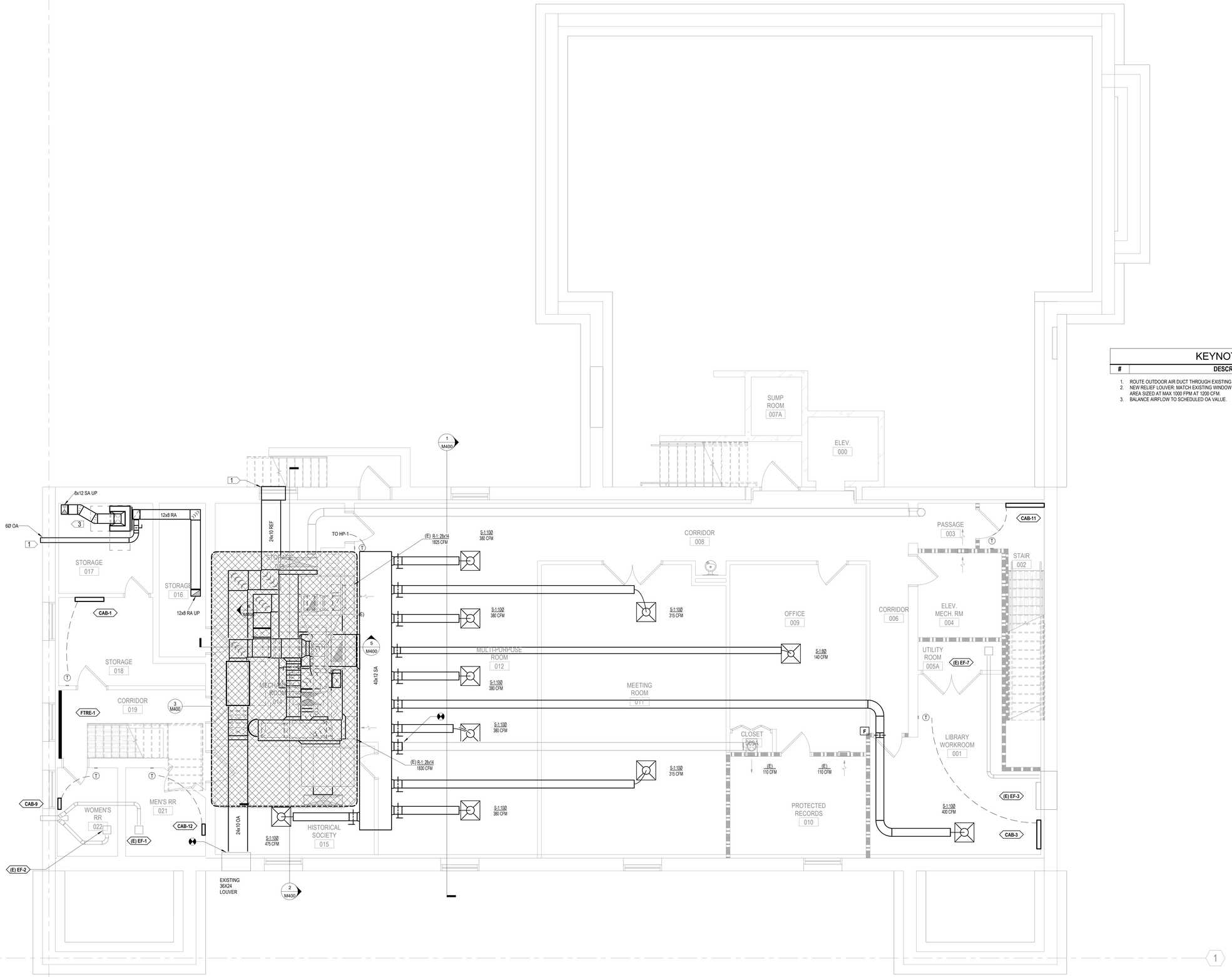
HGA NO: 5410-001-00

MECHANICAL DEMOLITION PLAN - LEVEL 02

DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

M102



1 HVAC PLAN - LOWER LEVEL 01
1/4" = 1'-0"

KEYNOTES

#	DESCRIPTION
1.	ROUTE OUTDOOR AIR DUCT THROUGH EXISTING WINDOW. TERMINATE IN LOUVERED WALL CAP.
2.	NEW RELIEF LOUVER: MATCH EXISTING WINDOW SIZE. APPROXIMATE SIZE 44"x44" WITH FREE AREA SIZED AT MAX 1000 FPM AT 1200 CFM.
3.	BALANCE AIRFLOW TO SCHEDULED OA VALUE.

HGA

7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

MECHANICAL/ELECTRICAL/ PLUMBING ENGINEER

HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN

2392 COUNTY F
BAILEYS HARBOR, WI 54202

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

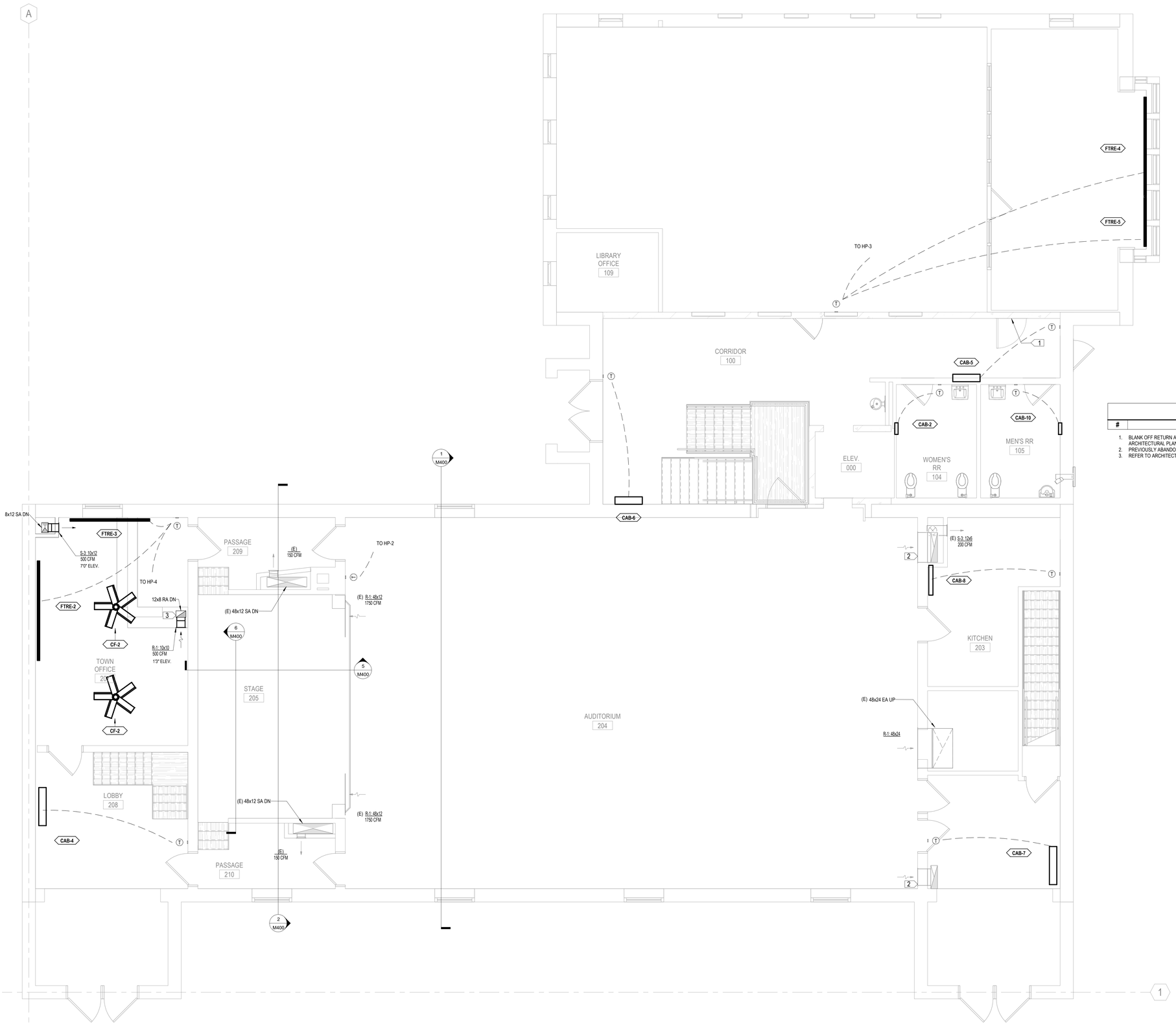
HGA NO: 5410-001-00

HVAC FLOOR PLAN - LOWER LEVEL

DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

M200



1 HVAC PLAN - LEVEL 01
1/4" = 1'-0"

KEYNOTES

#	DESCRIPTION
1.	BLANK OFF RETURN AIR PANELS IN DOOR OPENINGS. MATCH DOOR FINISHES. REFER TO ARCHITECTURAL PLANS.
2.	PREVIOUSLY ABANDONED RETURN GRILLE. EXISTING TO REMAIN.
3.	REFER TO ARCHITECTURAL PLANS FOR COORDINATION OF DUCTWORK IN CASEWORK.

HGA

7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

MECHANICAL/ELECTRICAL/ PLUMBING ENGINEER

HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN

2392 COUNTY F
BAILEYS HARBOR, WI 54202

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 5410-001-00

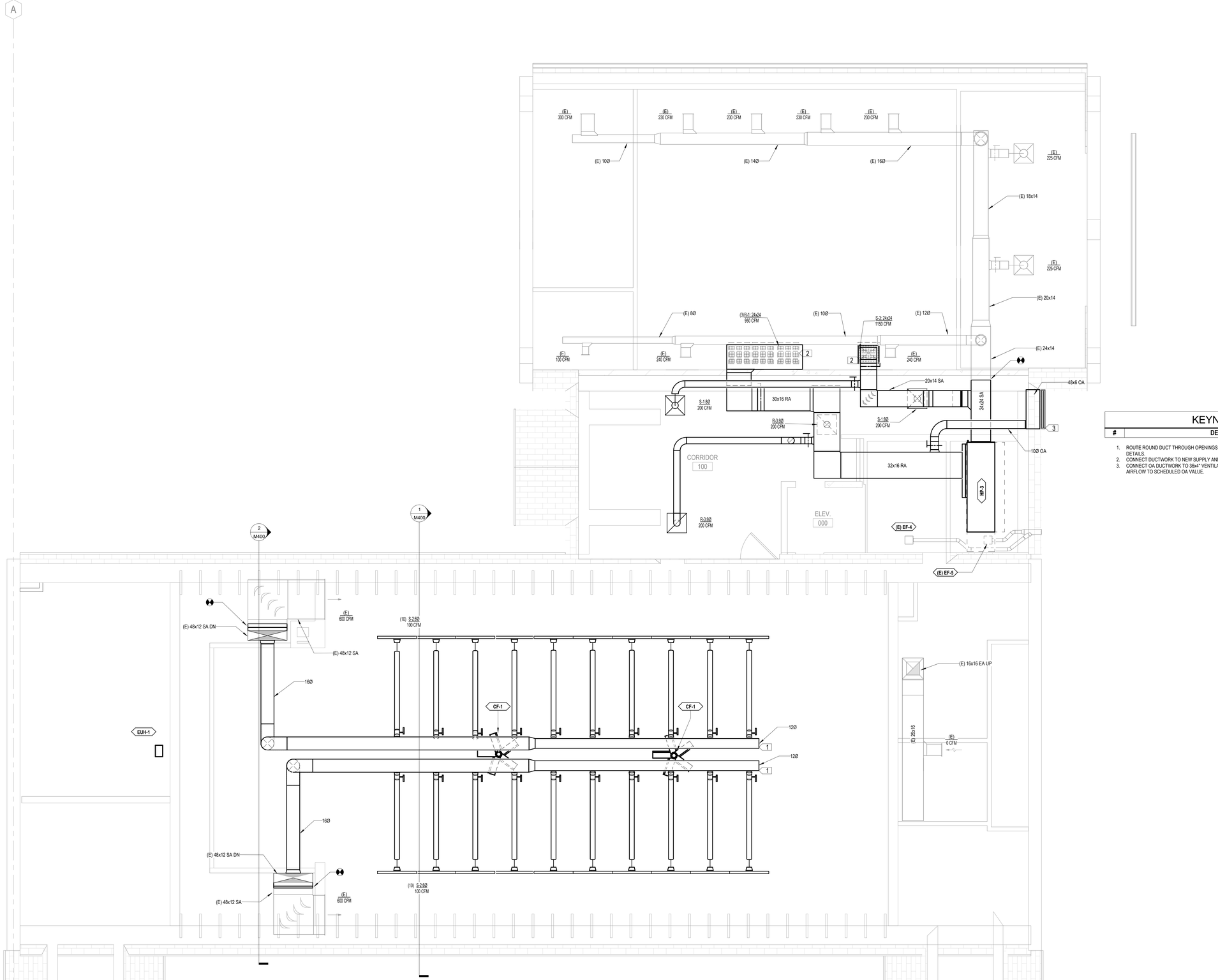
HVAC FLOOR PLAN - LEVEL 01

DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

M201

8/7/2025 4:09:52 PM Author Autodesk Docs://Bailey's Harbor Geothermal Design_5410-001-00/MP25_Bailey's Harbor Geothermal_5410-001-00.rvt



1 HVAC PLAN - LEVEL 02
1/4" = 1'-0"

KEYNOTES

#	DESCRIPTION
1.	ROUTE ROUND DUCT THROUGH OPENINGS IN JOIST SPACE. REFER TO 1/M400 FOR ADDITIONAL DETAILS.
2.	CONNECT DUCTWORK TO NEW SUPPLY AND RETURN GRILLES IN SOFFIT.
3.	CONNECT OA DUCTWORK TO 36x4" VENTILATION LOUVER IN EXTERIOR SOFFIT. BALANCE AIRFLOW TO SCHEDULED OA VALUE.

HGA

7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

MECHANICAL/ELECTRICAL/ PLUMBING ENGINEER

HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN

2392 COUNTY F
BAILEYS HARBOR, WI 54202

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

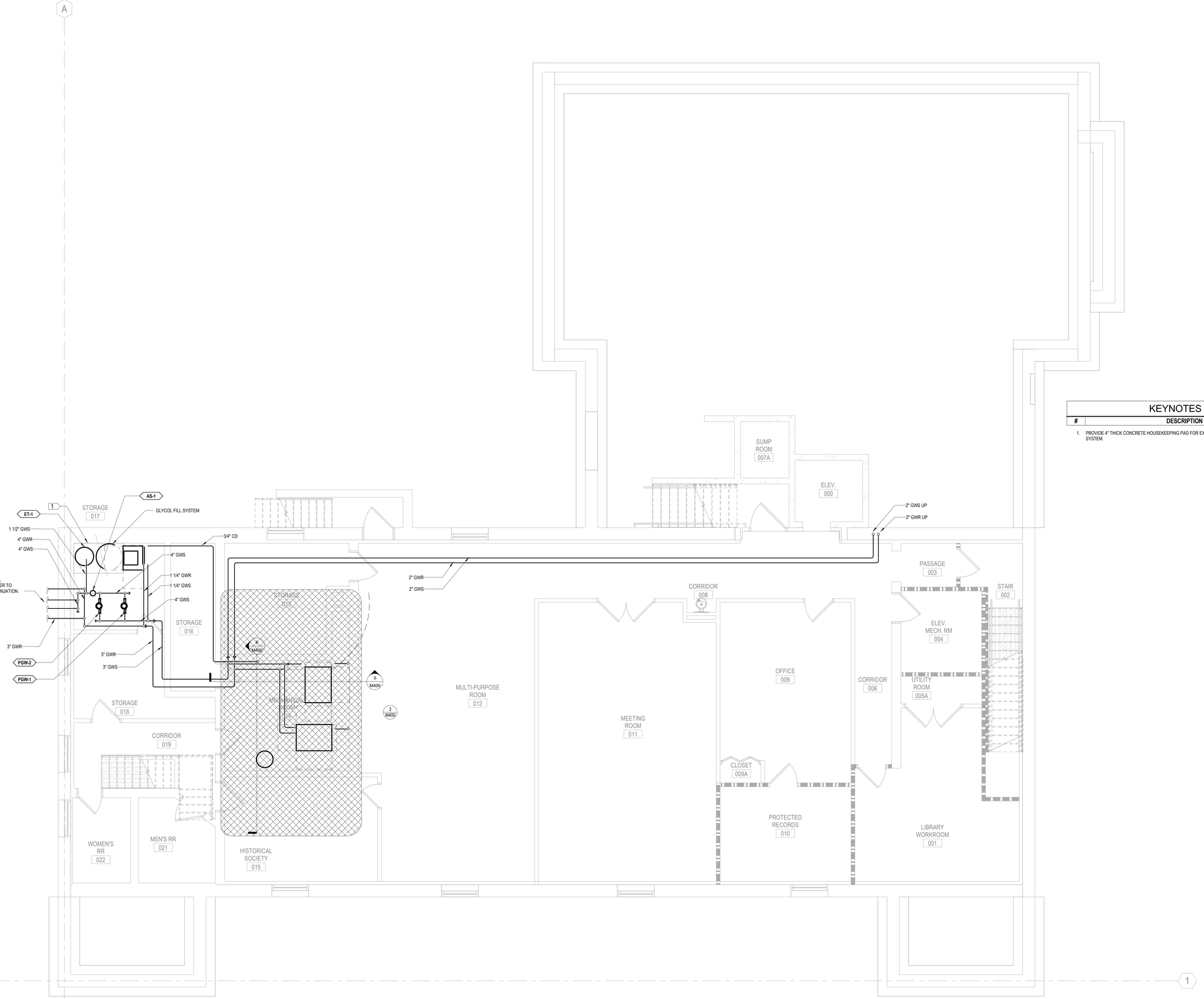
HGA NO: 5410-001-00

HVAC FLOOR PLAN - LEVEL 02

DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

M202



1 MECHANICAL PIPING PLAN - LOWER LEVEL 01
1/4" = 1'-0"

KEYNOTES

#	DESCRIPTION
1.	PROVIDE 4" THICK CONCRETE HOUSEKEEPING PAD FOR EXPANSION TANK AND GLYCOL FILL SYSTEM.

HGA

7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

MECHANICAL/ELECTRICAL/ PLUMBING ENGINEER

HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN

2392 COUNTY F
BAILEYS HARBOR, WI 54202

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

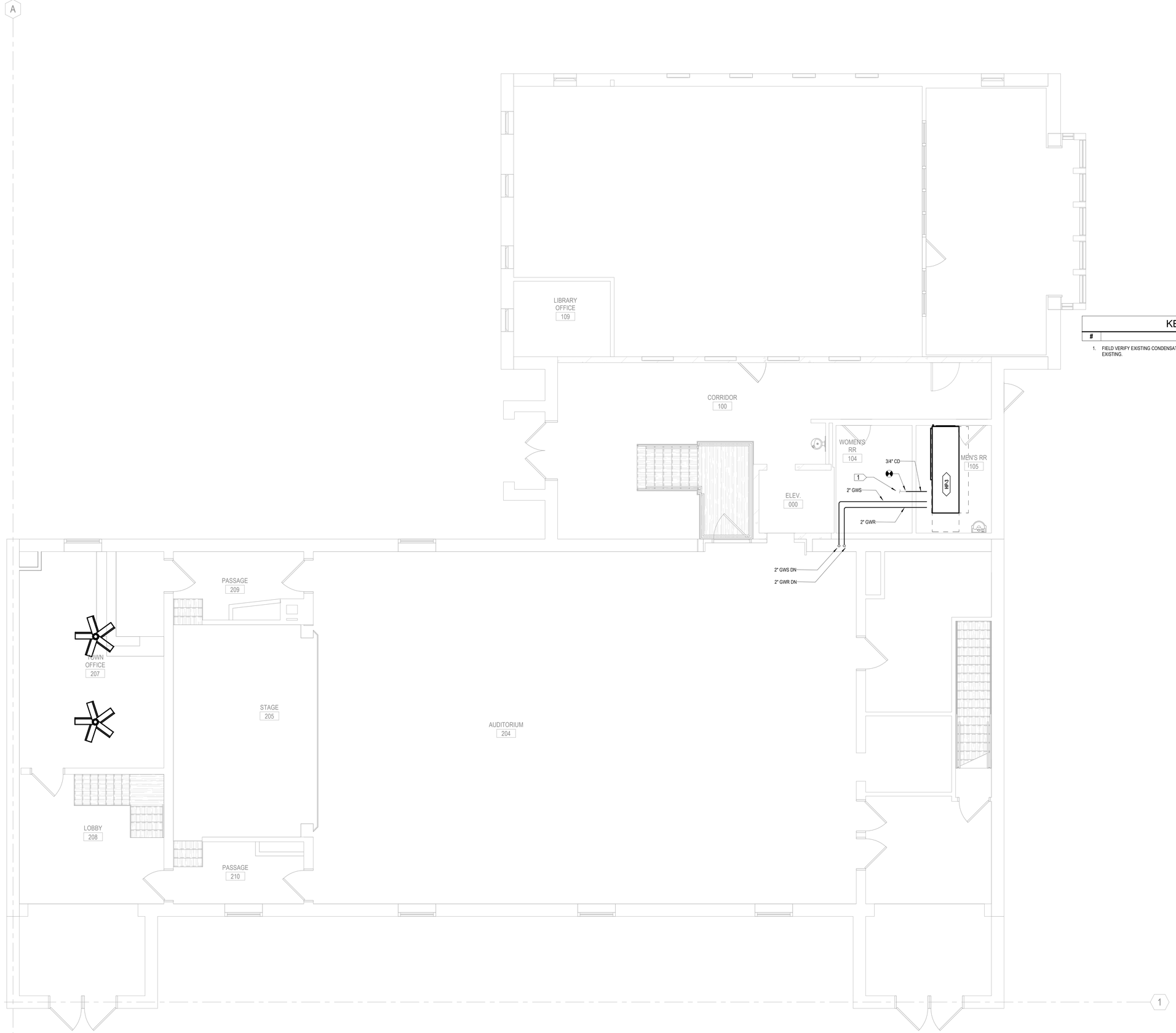
HGA NO: 5410-001-00

PIPING FLOOR PLAN - LOWER LEVEL

DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

M300



KEYNOTES

#	DESCRIPTION
1.	FIELD VERIFY EXISTING CONDENSATE LINE LOCATION AND CONNECT NEW CONDENSATE INTO EXISTING.

1 MECHANICAL PIPING PLAN - LEVEL 01
1/4" = 1'-0"

HGA

7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

MECHANICAL/ELECTRICAL/ PLUMBING ENGINEER

HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN

2392 COUNTY F
BAILEYS HARBOR, WI 54202

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 5410-001-00

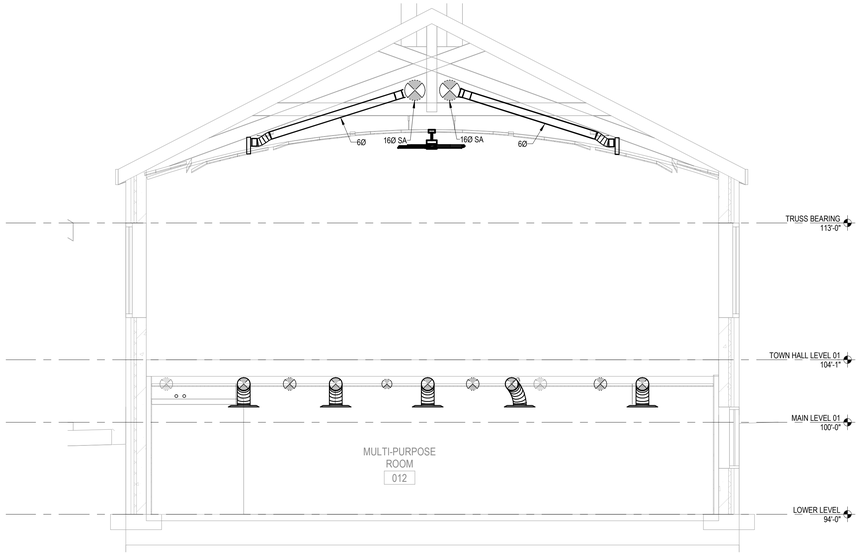
PIPING FLOOR PLAN - LEVEL 01

DATE: August 07, 2025

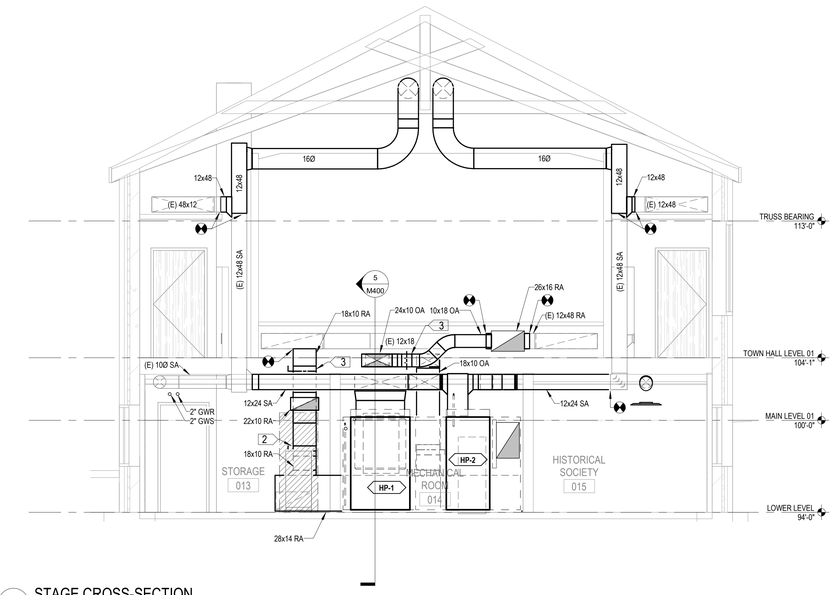
CONSTRUCTION DOCUMENTS

M301

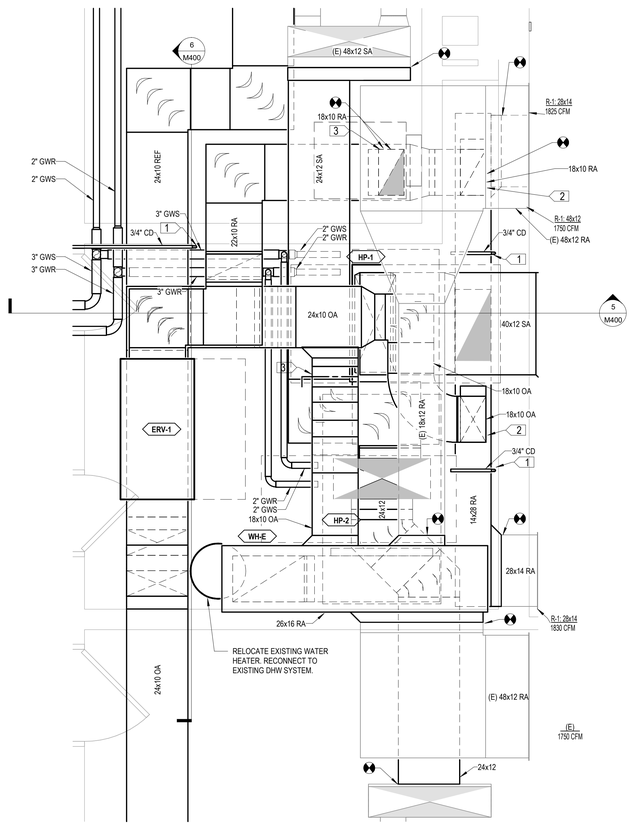
Author 8/7/2025 4:09:54 PM Autodesk Docs://Bailey's Harbor_Geothermal Design_5410-001-00/MP25_Bailey's Harbor Geothermal_5410-001-00.rvt



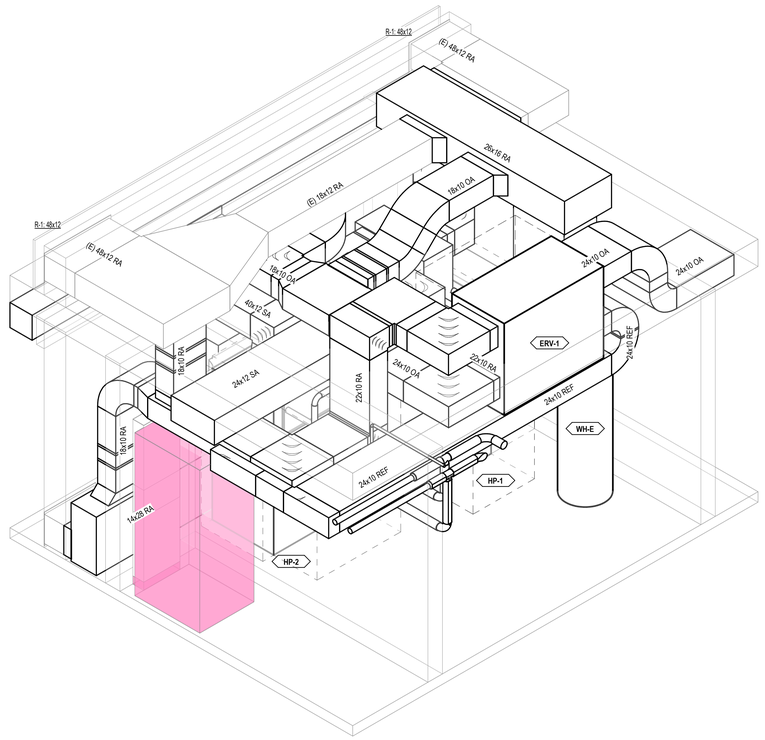
1 AUDITORIUM CROSS-SECTION
1/4" = 1'-0"



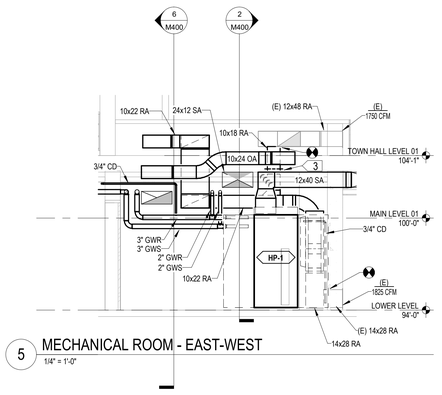
2 STAGE CROSS-SECTION
1/4" = 1'-0"



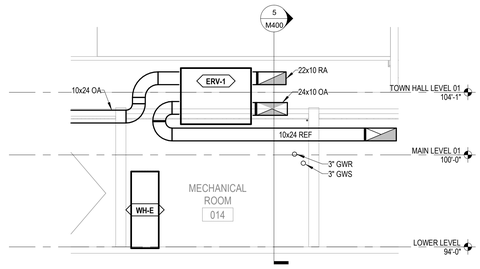
3 MECHANICAL ROOM - ENLARGED
1/2" = 1'-0"



4 MECHANICAL ROOM 3D VIEW



5 MECHANICAL ROOM - EAST-WEST
1/4" = 1'-0"



6 MECHANICAL ROOM - NORTH-SOUTH
1/4" = 1'-0"

KEYNOTES

#	DESCRIPTION
1.	CONDENSATE PIPING SHALL BE SUPPORTED DOWN WALL. PIPE SHALL TERMINATE 6" ABOVE NEAREST FLOOR DRAIN.
2.	BALANCE VOLUME DAMPER TO HP-1 SCHEDULED OA CFM.
3.	BALANCE VOLUME DAMPER TO HP-2 SCHEDULED OA CFM.

HGA

7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

MECHANICAL/ELECTRICAL/ PLUMBING ENGINEER

HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN

2392 COUNTY F
BAILEYS HARBOR, WI 54202

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 5410-001-00

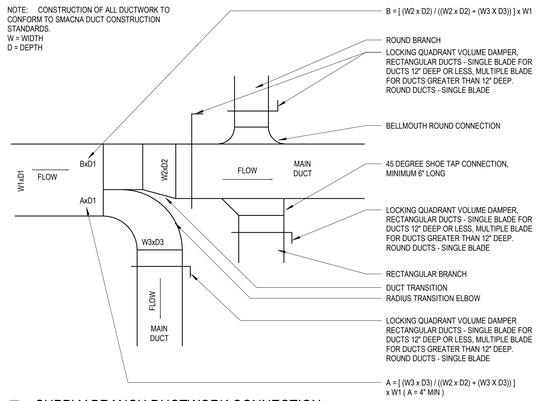
ENLARGED MECHANICAL PLANS AND SECTIONS

DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

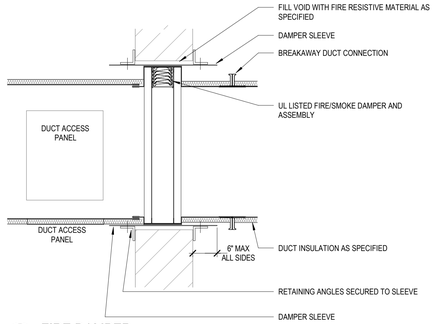
M400

Author 8/7/2025 4:09:58 PM Autodesk Docs://Bailey's Harbor_Geothermal Design_5410-001-00/MP25_Bailey's Harbor Geothermal_5410-001-00.rvt

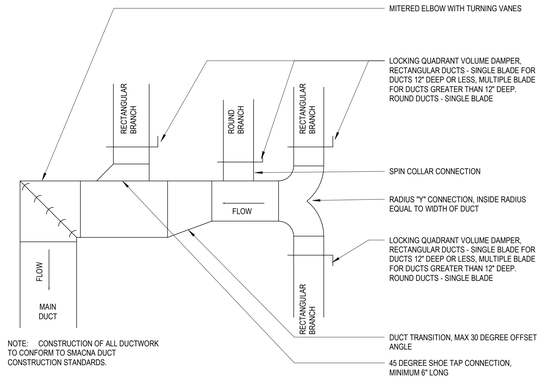


1 SUPPLY BRANCH DUCTWORK CONNECTION
NTS

NOTES:
A. THIS DETAIL IS PROVIDED FOR REFERENCE ONLY TO INDICATE MINIMUM REQUIREMENTS.
B. DAMPER INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS AND AUTHORITY HAVING JURISDICTION
C. DETAIL APPLIES TO VERTICAL DUCT WITH HORIZONTAL DAMPER IF ALLOWED BY AUTHORITIES HAVING JURISDICTION.

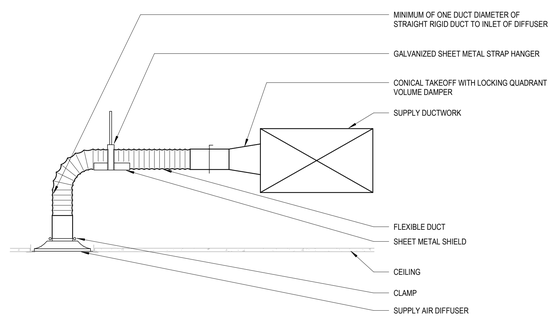


2 FIRE DAMPER
NTS



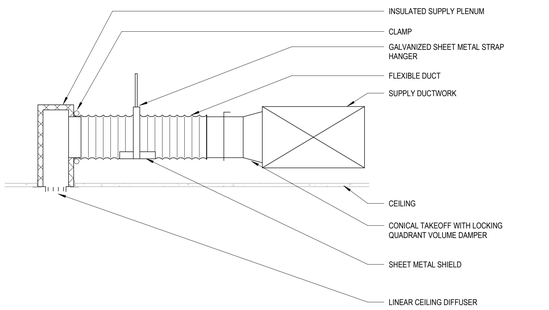
NOTE: CONSTRUCTION OF ALL DUCTWORK TO CONFORM TO SMACNA DUCT CONSTRUCTION STANDARDS.

3 EXHAUST OR RETURN AIR DUCTWORK CONNECTION
NTS



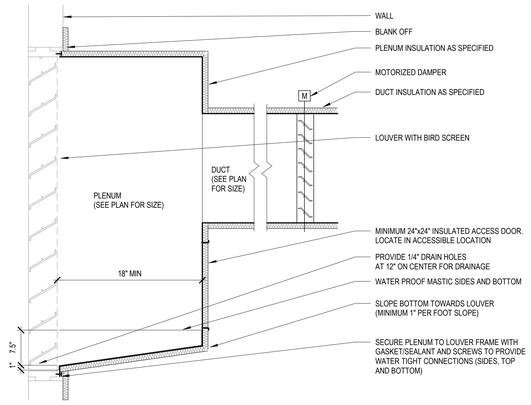
GENERAL NOTES:
A. PROVIDE GALVANIZED SHEET METAL HANGER & SHIELD.
B. VOLUME DAMPERS INTEGRAL TO DIFFUSER WILL NOT BE ACCEPTED.
C. RUNS OF FLEXIBLE DUCT SHALL NOT EXCEED 5 FEET IN LENGTH.

4 DUCT CONNECTION TO CEILING DIFFUSER
NTS

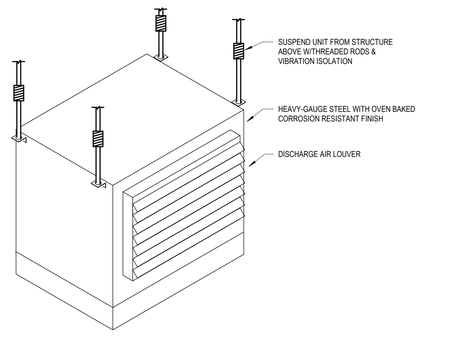


GENERAL NOTES:
A. PROVIDE GALVANIZED SHEET METAL HANGER & SHIELD.
B. VOLUME DAMPERS INTEGRAL TO DIFFUSER WILL NOT BE ACCEPTED.
C. RUNS OF FLEXIBLE DUCT SHALL NOT EXCEED 5 FEET IN LENGTH.

5 LINEAR DIFFUSER DUCT CONNECTION
NTS

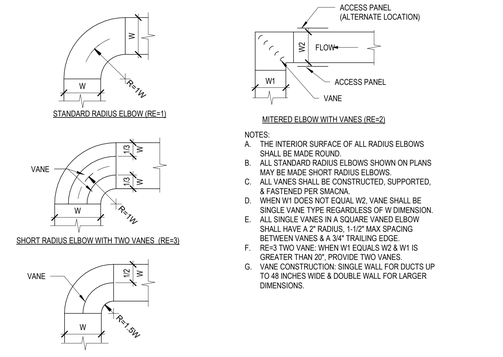


6 PLENUM (DRAIN TO EXTERIOR)
NTS



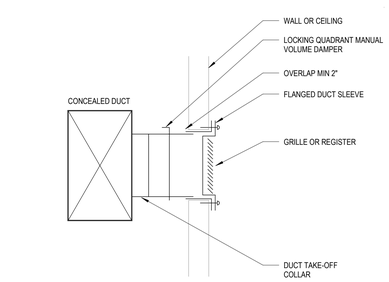
NOTES:
A. 7'-0" AFF UNLESS NOTED OTHERWISE, COMPLY WITH NFPA 90A.
B. HANGER RODS & ATTACHMENTS TO STRUCTURE IN SECTIONS "HANGERS & SUPPORTS FOR HVAC PIPING & EQUIPMENT" & "VIBRATION CONTROLS FOR HVAC."
C. VERIFY LOCATION OF THERMOSTATS & OTHER EXPOSED CONTROL SENSORS WITH DRAWINGS.

7 ELECTRIC UNIT HEATER
NTS

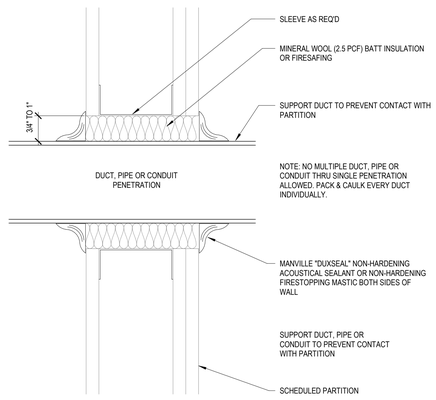


NOTES:
A. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
B. ALL STANDARD RADIUS ELBOWS SHOWN ON PLANS MAY BE MADE SHORT RADIUS ELBOWS.
C. ALL VANES SHALL BE CONSTRUCTED, SUPPORTED, & FASTENED PER SMACNA.
D. WHEN W1 DOES NOT EQUAL W2, VANE SHALL BE SINGLE VANE TYPE REGARDLESS OF W DIMENSION.
E. ALL SINGLE VANES IN A SQUARE VANED ELBOW SHALL HAVE A 2" RADIUS, 1-1/2" MAX SPACING BETWEEN VANES & A 3/4" TRAILING EDGE.
F. RE=3 TWO VANE: WHEN W1 EQUALS W2 & W1 IS GREATER THAN 20", PROVIDE TWO VANES.
G. VANE CONSTRUCTION: SINGLE WALL FOR DUCTS UP TO 48 INCHES WIDE & DOUBLE WALL FOR LARGER DIMENSIONS.

8 ELBOW DETAILS
NTS



9 CONCEALED DUCT GRILLE CONNECTION
NTS



10 WALL PENETRATION - STUD WALL
NTS

HGA
7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

MECHANICAL/ELECTRICAL/ PLUMBING ENGINEER
HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN
2392 COUNTY F
BAILEYS HARBOR, WI 54202

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

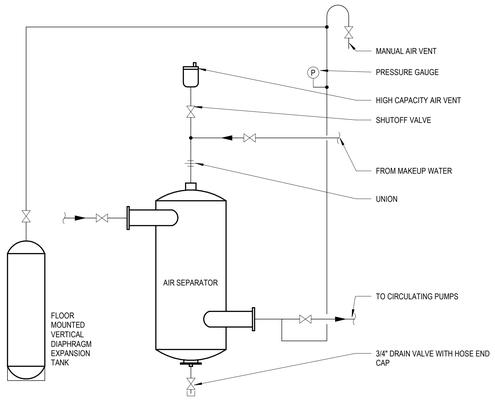
HGA NO: 5410-001-00

MECHANICAL DETAILS

DATE: August 07, 2025

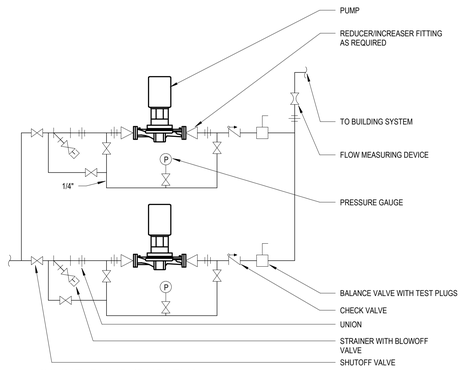
CONSTRUCTION DOCUMENTS

M700

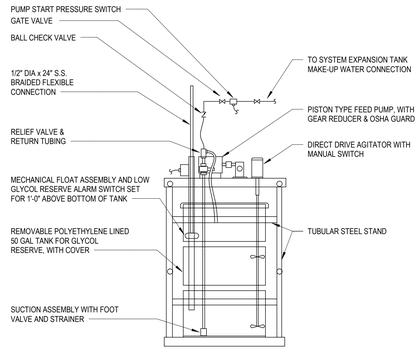


1 AIR SEPARATOR AND EXPANSION TANK
NTS

NOTE:
A. ALL VALVES AND FITTINGS TO BE PIPE SIZE, NOT PUMP INLET AND OUTLET SIZE.



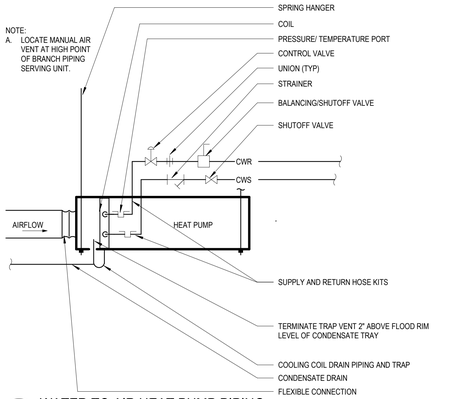
2 INLINE PUMP (DUPLEX)
NTS



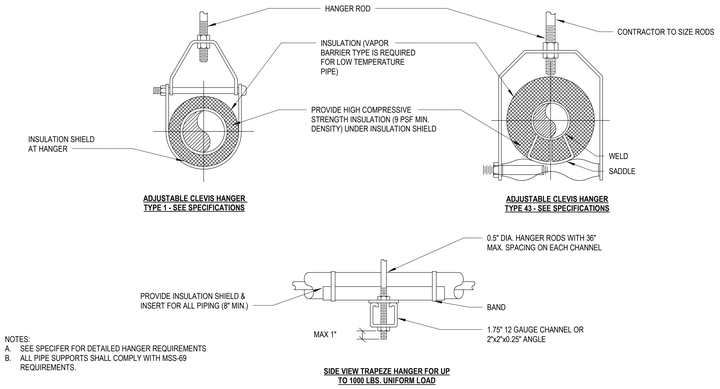
NOTE:
A. PROVIDE AUTOMATIC GLYCOL FILLING SYSTEM FOR THE GEOTHERMAL WATER SYSTEMS.

3 GLYCOL SOLUTION FEED SYSTEM
NTS

NOTE:
A. LOCATE MANUAL AIR VENT AT HIGH POINT OF BRANCH PIPING SERVING UNIT.



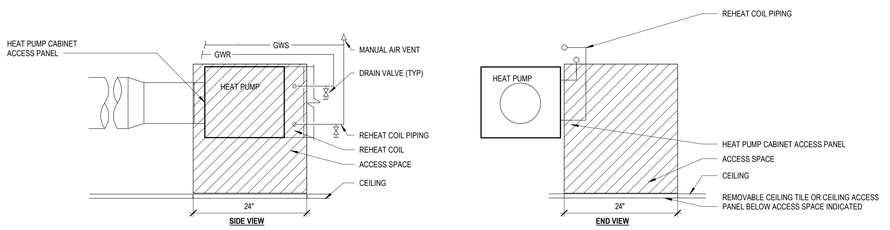
5 WATER TO AIR HEAT PUMP PIPING
NTS



NOTES:
A. SEE SPECIFER FOR DETAILED HANGER REQUIREMENTS
B. ALL PIPE SUPPORTS SHALL COMPLY WITH MSS-69 REQUIREMENTS.

6 PIPE HANGERS
NTS

NOTES:
A. CROSSHATCHING INDICATES HEAT PUMP UNIT ACCESS SPACE. IT IS THE PRIME CONTRACTOR AND DIVISION 23 CONTRACTORS RESPONSIBILITY TO PREVENT ANY BUILDING TRADE FROM RUNNING ANYTHING THROUGH THIS ACCESS SPACE. ALL TERMINAL UNITS SHALL BE LOCATED TO ALLOW THE 24"x24" ACCESS SPACE IN THE LOCATION INDICATED WITHOUT ANY HYDRONIC, PLUMBING,PROCESS, SPRINKLER, DUCTWORK, ELECTRICAL CONDUITS, WIRES, LIGHTS, ETC, INTERFERING WITH ACCESS TO THE HEAT PUMP UNIT CONTROLS AND COIL VALVING.
B. IF, IN SOME CASES, IT IS EXTREMELY DIFFICULT TO PROVIDE 100% OF THE ACCESS SPACE INDICATED, THE CONTRACTOR(S) SHALL OBTAIN APPROVAL TO VIOLATE SPACE FROM THE OWNERS AUTHORIZED REPRESENTATIVE.



7 HEAT PUMP DUCT & PIPING CONNECTIONS & ACCESS
NTS

HGA
7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

MECHANICAL/ELECTRICAL/ PLUMBING ENGINEER

HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN

2392 COUNTY F
BAILEYS HARBOR, WI 54202

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

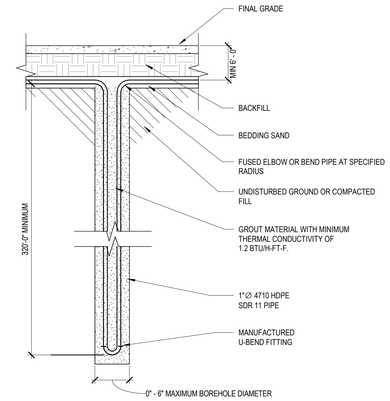
HGA NO: 5410-001-00

MECHANICAL DETAILS

DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

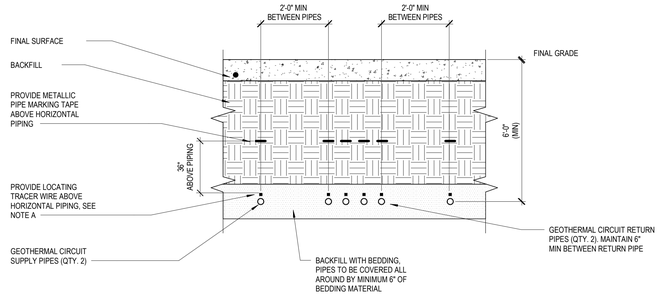
M701



GENERAL NOTES:

A. TOTAL MINIMUM BOREHOLE DEPTH FROM FINAL GRADE IS MINIMUM BORE DEPTH PLUS MINIMUM COVER TO ACCOUNT FOR PIPING DEPTH BELOW GRADE.
B. REFERENCE SECTION 237905 FOR DRILLING, GROUT, PIPING, AND INSTALLATION REQUIREMENTS.
C. REFERENCE CIVIL PLANS AND SPECIFICATIONS FOR BACKFILL, COMPACTION, SURFACE, AND FINAL GRADE REQUIREMENTS.

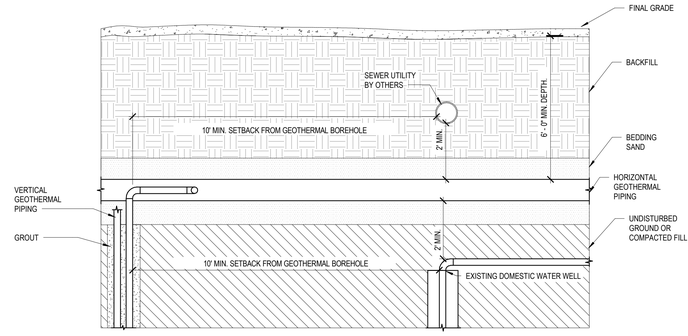
1 GEOTHERMAL VERTICAL BOREHOLE
NTS



GENERAL NOTES:

A. LOCATING TRACER WIRE TO BE TERMINATED AT ACCESSIBLE LOCATION PER SPECIFICATIONS.
B. REFERENCE CIVIL/SITE PLANS AND EARTHWORK SPECIFICATIONS FOR BACKFILL, COMPACTION, AND SURFACE REQUIREMENTS.

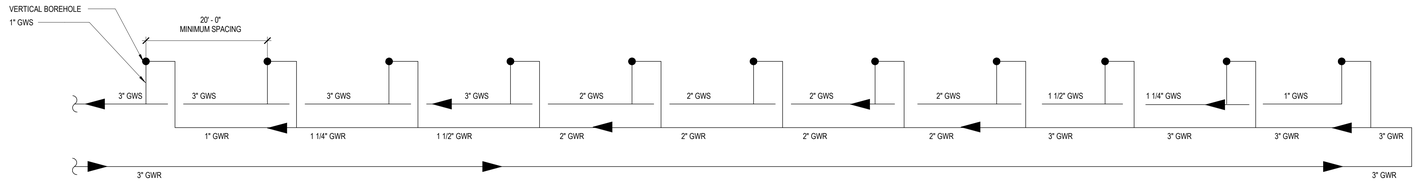
2 GEOTHERMAL CIRCUIT PIPE TRENCH
NTS



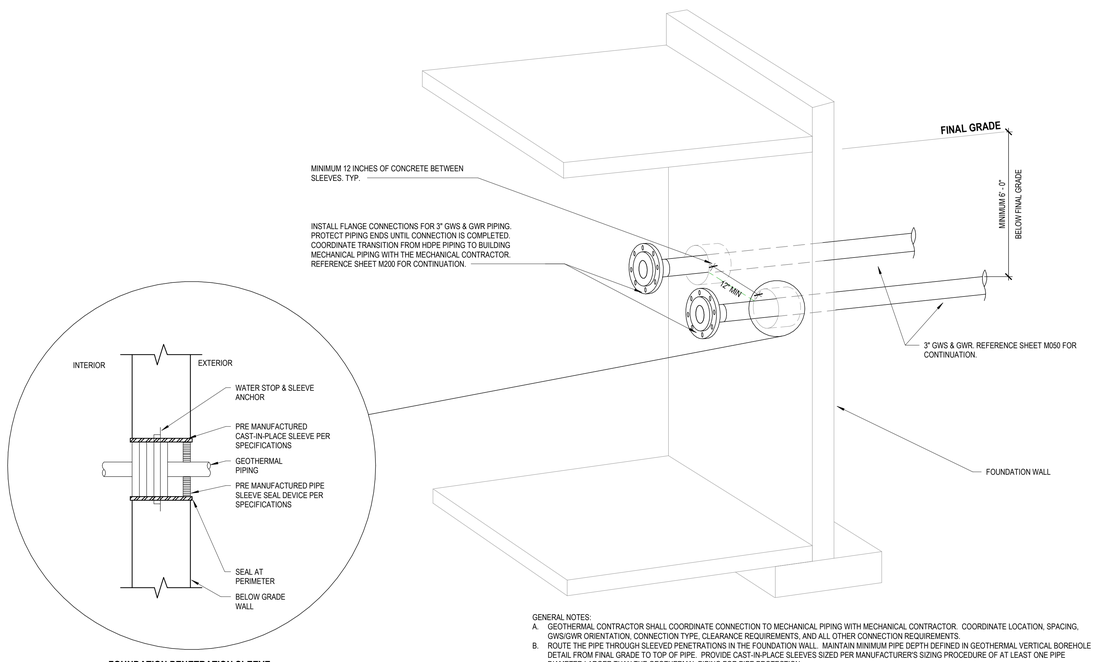
GENERAL NOTES:

A. REFER TO SPECIFICATION SECTION 237905 FOR MORE DETAILS.
B. REFERENCE SITE PLANS AND SPECIFICATIONS FOR BACKFILL, COMPACTION, SURFACE, AND FINAL GRADE REQUIREMENTS.

3 SITE UTILITY SEPARATION AND SETBACK DISTANCES
NTS



4 GEOTHERMAL BRANCH CIRCUIT SIZING DIAGRAM
NTS



FOUNDATION PENETRATION SLEEVE

GENERAL NOTES:

A. GEOTHERMAL CONTRACTOR SHALL COORDINATE CONNECTION TO MECHANICAL PIPING WITH MECHANICAL CONTRACTOR. COORDINATE LOCATION, SPACING, GWS/GWR ORIENTATION, CONNECTION TYPE, CLEARANCE REQUIREMENTS, AND ALL OTHER CONNECTION REQUIREMENTS.
B. ROUTE THE PIPE THROUGH SLEEVED PENETRATIONS IN THE FOUNDATION WALL. MAINTAIN MINIMUM PIPE DEPTH DEFINED IN GEOTHERMAL VERTICAL BOREHOLE DETAIL FROM FINAL GRADE TO TOP OF PIPE. PROVIDE CAST-IN-PLACE SLEEVES SIZED PER MANUFACTURER'S SIZING PROCEDURE OF AT LEAST ONE PIPE DIAMETER LARGER THAN THE GEOTHERMAL PIPING FOR PIPE PROTECTION.
C. ALL INTERIOR GEOTHERMAL PIPING ABOVE FLOOR SLAB SHALL BE INSULATED, JACKETED, AND LABELED AS REQUIRED IN THE MECHANICAL SPECIFICATIONS.
D. GEOTHERMAL PIPING SHALL BE SUPPORTED AS REQUIRED IN SECTION 230529. SUPPORTS SHALL ALLOW FOR CONTINUOUS INSULATION AND VAPOR BARRIER.
E. DETAIL TYPICAL OF ALL GEOTHERMAL WATER PIPING THROUGH FOUNDATION WALL.

5 GEOTHERMAL MAIN PIPE PENETRATIONS THROUGH FOUNDATION WALL
NTS

HGA
7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

MECHANICAL/ELECTRICAL/ PLUMBING ENGINEER

HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN

2392 COUNTY F
BAILEYS HARBOR, WI 54202

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 5410-001-00

GEOTHERMAL DETAILS

DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

M702

ENERGY RECOVERY VENTILATOR - AIR TO AIR SCHEDULE (ERV)

UNIT NUMBER	LOCATION	HEAT EXCHANGER TYPE	SUPPLY FAN				EXHAUST FAN				MINIMUM AIRFLOW (CFM)	DAMPER TYPE (MOTORIZED,GRAVITY,NA)	SUMMER CONDITIONS							WINTER CONDITIONS							OUTSIDE AIR FILTER	RETURN AIR FILTER	ELECTRICAL			BASIS OF DESIGN		NOTES
			OUTSIDE AIRFLOW (CFM)	ESP (IN WG)	MOTOR (HP)	SPEED CONTROL (VSD, ECM, NA)	EXHAUST AIRFLOW (CFM)	ESP (IN WG)	MOTOR (HP)	SPEED CONTROL (VSD, ECM, NA)			OAT (°F)		RAT (°F)		SAT (°F)		EFF (%)	OAT (°F)		RAT (°F)		SAT (°F)		EFF (%)							
													DB	WB	DB	WB	DB	WB		DB	WB	DB	WB	DB	WB		TYPE	TYPE	VOLTAGE	PHASE	MANUFACTURER	MODEL	
ERV-1	MECHANICAL ROOM 014	CORE	1,200	0.50	1	VSD	1,200	0.50	1	VSD	600	MOTORIZED	87	75	75	62	80	70	70	-15	-15	72	55	30	25	70	2" MERV 8	2" MERV 8	120	1	GREENHECK	ECV-10-INDOOR	

GRILLES, REGISTERS AND DIFFUSERS SCHEDULE (GRD)

UNIT NUMBER	USAGE	DESCRIPTION	MATERIAL / FINISH	BASIS OF DESIGN		NOTES
				MANUFACTURER	MODEL	
R-1	RETURN / EXHAUST GRILLE	SINGLE DEFLECTION SURFACE MOUNTED GRILLE	ST	530L	PRICE	1, 2
R-3	CEILING RETURN GRILLE	24"X 24" EGG CRATE FACE GRILLE, 1/2" X 1/2" X 1/2" GRID CORE	ST	80D	PRICE	1, 2
S-1	CEILING SUPPLY DIFFUSER	24"X 24" SQUARE CONE DIFFUSER WITH INSULATED BACKPAN AND ROUND NECK	ST	SCD	PRICE	1, 2
S-2	SUPPLY DIFFUSER	1-SLOT, 3/4" SLOT WIDTH, 48" SLOT LENGTH. PROVIDE "SDA" PLENUM	ST	SDS75	PRICE	1, 2
S-3	SUPPLY GRILLE	DOUBLE DEFLECTION SURFACE MOUNTED, 3/4" LOUVER SPACING, 1-1/4" BORDER, FRONT BLADES PARALLEL TO SHORT DIMENSION	ST	520	PRICE	1, 2

NOTES:
1. GRILLE AND REGISTER SIZES ARE NOTED ON THE HVAC FLOOR PLANS AND VENTILATION SCHEDULES
2. PROVIDE APPROPRIATE FRAME/BORDER/FLANGE FOR PROPER MOUNTING. REFER TO THE ARCHITECTURAL DRAWINGS FOR SURFACES IN WHICH GRILLES, REGISTERS, AND DIFFUSERS ARE LOCATED

FIN TUBE RADIATION - ELECTRIC SCHEDULE (FTRE)

UNIT NUMBER	LOCATION	UNIT TYPE	TOTAL HEATING CAPACITY (KW)	ENCLOSURE			ELECTRICAL		BASIS OF DESIGN		COLOR	NOTES
				LENGTH (IN)	HEIGHT (IN)	WIDTH (IN)	VOLTAGE	PHASE	MANUFACTURER	MODEL		
FTRE-1	CORRIDOR 019	HORIZONTAL	1.75	84	8.5	3.00	208	1	MARKEL	H3717	STANDARD WHITE	1, 2, 3
FTRE-2	VISITOR'S CENTER 207	HORIZONTAL	2.50	120	8.5	3.00	208	1	MARKEL	F3725	STANDARD WHITE	1, 2, 3
FTRE-3	VISITOR'S CENTER 207	HORIZONTAL	2.00	96	8.5	3.00	208	1	MARKEL	F3720	STANDARD WHITE	1, 2, 3
FTRE-4	LIBRARY	HORIZONTAL	3.00	120	7.5	6.15	208	1	MARKEL	DBF-10	BEIGE	1, 2, 3
FTRE-5	LIBRARY	HORIZONTAL	1.20	60	7.5	6.15	208	1	MARKEL	DBF-5	BEIGE	1, 2, 3

NOTES:
1. PROVIDE UNIT WITH FACTORY MOUNTED AND WIRED DISCONNECT WITHIN HEATER ENCLOSURE.
2. PROVIDE UNIT WITH WALL MOUNTED, VANDAL-PROOF, SINGLE-POLE THERMOSTAT, RANGE -60-105 DEG F. (BY MC).
3. PROVIDE OPTIONAL CASING ENDS, EXTENSION, INSIDE & OUTSIDE CORNER SECTIONS FOR CONTINUOUS & ENCLOSED CASING, CONCEALING WIRES & ACCESSORIES.

WATER-TO-AIR HEAT PUMP SCHEDULE (HP)

UNIT NUMBER	AREA SERVED	LOCATION	UNIT TYPE	FAN			MAX OUTSIDE AIR FLOW (CFM)	MINIMUM OUTSIDE AIRFLOW (CFM)	CONDENSER			COOLING							HEATING						ELECTRICAL			BASIS OF DESIGN		NOTES
				SUPPLY AIRFLOW (CFM)	MAX ESP (IN. WG)	HP			WATER FLOW (GPM)	WATER PRESSURE DROP (FT)	FLUID TYPE	CAPACITY (MBH)		HEAT OF REJECTION (MBH)	EAT DB (F)	EAT WB (F)	LAT DB (F)	EWT (F)	LWT (F)	HEATING CAPACITY (MBH)	HEAT OF ABSORPTION (MBH)	EAT DB (°F)	LAT DB (°F)	EFT (°F)	LFT (°F)	FLA	VOLTAGE	PHASE	MANUFACTURER	MODEL	
												TOTAL	SENSIBLE																	
HP-1	LOWER LEVEL	MECHANICAL ROOM 014	VERTICAL	3,700	1.75	7.2	600	600	35.0	14.2	25% PG	150.0	95	206	80	67	54	87	99	118	61.3	68.0	100.0	30.0	26.4	58.8	208	3	WATERFURNACE INT'L	V7AV180 RR	1
HP-2	AUDITORIUM	MECHANICAL ROOM 014	VERTICAL	3,500	0.5	7.2	900	900	35.0	14.2	25% PG	160.0	113	220	80	67	59	87	99	122	72.0	68.0	90.0	30.0	25.8	58.8	208	3	WATERFURNACE INT'L	V7AV180 RR	1
HP-3	LIBRARY	MEN'S RR 105	HORIZONTAL	3,800	0.5	7.2	500	500	35.0	14.2	25% PG	160.0	113	220	80	67	59	86	99	124	75.3	64.0	86.0	30.0	25.6	58.8	208	3	WATERFURNACE INT'L	V7AH180 LR	1
HP-4	OFFICE	VISITOR'S CENTER 207	VERTICAL	500	0.5	1	150	150	12.0	10.7	25% PG	45.0	33	55.4	80	67	59	86	99	34	25.6	64.0	85.0	30.0	25.6	17.2	208	3	WATERFURNACE INT'L	V7AV048 L	1, 2

NOTES:
1. PROVIDE UNIT WITH COMBINATION STARTER AND LOCAL DISCONNECT.
2. PROVIDE UNIT WITH CONDENSATE PUMP.

PUMP SCHEDULE (P)

UNIT NUMBER	LOCATION	SYSTEM TYPE	PUMP TYPE	DESIGN PUMP DATA					CASING				MOTOR				ELECTRICAL		BASIS OF DESIGN		NOTES
				FLOW (GPM)	FLUID TYPE	HEAD (FT)	NPSHR (FT)	MIN EFF (%)	IMPELLER DIAMETER (IN)	CONNECTION TYPE	SUCTION (IN)	DISCHARGE (IN)	HP	BHP	SPEED (RPM)	SPEED CONTROL	VOLTAGE	PHASE	MANUFACTURER	MODEL	
PGW-1	STORAGE 017	PRIMARY	IN-LINE	117.0	25% PG	125	10.6	70	6	FLANGE	2"	2"	7.5	5.28	3,500	ECM	208	3	TACO	SKS1506	
PGW-2	STORAGE 017	PRIMARY	IN-LINE	117.0	25% PG	125	10.6	70	6	FLANGE	2"	2"	7.5	5.28	3,500	ECM	208	3	TACO	SKS1506	

CABINET UNIT HEATER - ELECTRIC SCHEDULE (CAB)

UNIT NUMBER	LOCATION	ENCLOSURE									CAPACITY (KW)	NUMBER OF CONTROL STEPS	AIRFLOW (CFM)	FAN SPEED (RPM)	ELECTRICAL		BASIS OF DESIGN		NOTES
		HEIGHT (IN)	WIDTH (IN) (IN)	DEPTH (IN) (IN)	CONFIG	UNIT TYPE	UNIT STYLE	FINISH (STD/CUST/FIELD)	AIR INLET	AIR OUTLET					VOLTAGE	PHASE	MANUFACTURER	MODEL	
CAB-1	RECYCLING ROOM 018	14	36	5	FRONT IN/TOP OUT	SURFACE MOUNTED	SLOPE TOP WALL CONVECTOR	WHITE POWDER COATED	FRONT	TOP	1	1	0	0	120	1	MARKEL	8523	1, 2, 6
CAB-2	WOMEN'S RR 104	19	14	4		SURFACE MOUNTED	FAN FORCED WALL HEATER	WHITE POWDER COATED	FRONT	FRONT	1	1	175	600	120	1	MARKEL	3310	1, 2, 3, 5, 6
CAB-3	LIBRARY WORKROOM 001	14	36	5	FRONT IN/TOP OUT	SURFACE MOUNTED	SLOPE TOP WALL CONVECTOR	WHITE POWDER COATED	FRONT	TOP	1	1	0	0	120	1	MARKEL	8523	1, 2, 6
CAB-4	LOBBY 208	25	46	9	UPFLOW	SURFACE MOUNTED	MULTIPLE ANGLE CABINET UNIT HEATER	BEIGE POWDER COATED	BOTTOM	TOP, FRONT	5	2	250	0	208	3	MARKEL	6346	1, 2, 6
CAB-5	MAIN CORRIDOR	25	33	9	FRONT IN/TOP OUT	SEMI-RECESSED	MULTIPLE ANGLE CABINET UNIT HEATER	BEIGE POWDER COATED	FRONT	FRONT	5	2	250	0	208	3	MARKEL	6333	1, 2, 4, 5, 6
CAB-6	MAIN CORRIDOR	25	33	9	FRONT IN/TOP OUT	RECESSED	MULTIPLE ANGLE CABINET UNIT HEATER	BEIGE POWDER COATED	FRONT	FRONT	5	2	250	0	208	3	MARKEL	6333	1, 2, 4, 5, 6
CAB-7	NORTH LOBBY	25	46	9	UPFLOW	SURFACE MOUNTED	MULTIPLE ANGLE CABINET UNIT HEATER	BEIGE POWDER COATED	BOTTOM	TOP, FRONT	5	2	250	0	208	3	MARKEL	6346	1, 2, 6
CAB-8	KITCHEN	14	36	5	FRONT IN/TOP OUT	SURFACE MOUNTED	SLOPE TOP WALL CONVECTOR	WHITE POWDER COATED	FRONT	TOP	1	1	0	0	120	1	MARKEL	8523	1, 2, 6
CAB-9	WOMEN'S RR 022	19"	14	4		SURFACE MOUNTED	FAN FORCED WALL HEATER	WHITE POWDER COATED	FRONT	FRONT	1	1	175	600	120	1	MARKEL	3310	1, 2, 3, 5, 6
CAB-10	MEN'S RR 105	19	14	4		SURFACE MOUNTED	FAN FORCED WALL HEATER	WHITE POWDER COATED	FRONT	FRONT	1	1	175	600	120	1	MARKEL	3310	1, 2, 3, 5, 6
CAB-11	STAIR 002	20	48	5	FRONT IN/TOP OUT	SURFACE MOUNTED	SLOPE TOP WALL CONVECTOR	WHITE POWDER COATED	FRONT	TOP	3	1	0	0	208	3	MARKEL	8534	1, 2, 6
CAB-12	MEN'S RR 021	19"	14	4		SURFACE MOUNTED	FAN FORCED WALL HEATER	WHITE POWDER COATED	FRONT	FRONT	1	1	175	600	120	1	MARKEL	3310	1, 2, 3, 5, 6

NOTES:
1. COLOR TO BE SELECTED FROM MANUFACTURER'S STANDARD COLORS DURING SUBMITTAL PROCESS.
2. PROVIDE UNIT WITH FACTORY MOUNTED AND WIRED DISCONNECT.
3. PROVIDE UNIT WITH ON/AUTO FAN SWITCH.
4. PROVIDE RECESSED TRIM KIT.
5. PROVIDE UNIT WITH AUTOMATIC RESET THERMAL LIMIT AND AIR PROVING SWITCH.
6. PROVIDE UNIT WITH OPTIONAL FIELD INSTALLED 24 VOLTAGE CONTROL RELAY.

UNIT HEATER - ELECTRIC SCHEDULE (EUH)

UNIT NUMBER	LOCATION	UNIT TYPE	TOTAL HEATING CAPACITY (KW)	AIRFLOW (CFM)	MOUNTING HEIGHT (FT)	ELECTRICAL		BASIS OF DESIGN		NOTES
						VOLTAGE	PHASE	MANUFACTURER	MODEL	
EUH-1	LEVEL 2 STORAGE	FAN FORCED UNIT HEATER	5	275	8'-0"	240	1	MARKEL	HF5605T	1, 2, 3, 4

NOTES:
1. PROVIDE UNIT WITH FACTORY MOUNTED AND WIRED DISCONNECT.
2. PROVIDE WITH FAN GUARD SHIELDS ON ALL MOVING PARTS.
3. PROVIDE UNIT WITH AUTOMATIC RESET THERMAL LIMIT AND AIR PROVING SWITCH.
4. PROVIDE UNIT WITH SINGLE STAGE WALL MOUNTED THERMOSTAT.

CEILING FAN SCHEDULE

UNIT NUMBER	LOCATION	NO. OF BLADES	IMPELLER DIAMETER (IN)	AIRFLOW (CFM)	COVERAGE AREA (SF)	MOTOR (W)	MAX OPERATING WEIGHT (LBS)	ELECTRICAL		BASIS OF DESIGN		NOTES
								VOLTAGE	PHASE	MANUFACTURER	MODEL	
CF-1	AUDITORIUM 204	3	52	4,738	400	41	17	115	1	PRESTO	50811	1,2
CF-1	AUDITORIUM 204	3	52	4,738	400	41	17	115	1	PRESTO	50811	1,2
CF-2	AUDITORIUM 204	3	52	4,738	400	41	17	115	1	PRESTO	50811	1,2,3
CF-2	AUDITORIUM 204	3	52	4,738	400	41	17	115	1	PRESTO	50811	1,2,3

NOTES:
1. COLOR TO BE SELECTED FROM MANUFACTURER'S STANDARD COLORS DURING SUBMITTAL PROCESS.
2. PROVIDE UNIT WITH WALL MOUNTED SPEED SELECTOR SWITCH.
3. PROVIDE UNIT WITH LIGHT KIT.

EXPANSION TANK SCHEDULE (ET)

UNIT NUMBER	LOCATION	SYSTEM TYPE	TYPE	NOMINAL DIAMETER (IN)	LENGTH (IN)	CONNECTION (IN)	TANK VOLUME (GAL)	MIN ACCEPTANCE VOLUME (GAL)	EST. TOTAL SYSTEM VOLUME (GAL)	OPERATING PRESSURE (PSIG)		OPERATING TEMPERATURE (°F)		FLUID TYPE	MAX OPERATING WEIGHT (LBS)	BASIS OF DESIGN		NOTES
										MIN	MAX	FILL	MAX			MANUFACTURER	MODEL	
ET-1	STORAGE 017	GEOTHERMAL WATER	BLADDER	24	55	1-1/2	80	19.8	1200	35	55	30	100	25% PG	891	BELL & GOSSETT	B300	

AIR/DIRT SEPARATOR SCHEDULE (AS)

UNIT NUMBER	LOCATION	UNIT TYPE	SYSTEM TYPE	PIPE CONNECTIONS		FLUID TYPE	FLOW (GPM)	PRESSURE DROP (FT WC)	WET WEIGHT (LBS)	BASIS OF DESIGN		NOTES
				INLET (IN)	OUTLET (IN)					MANUFACTURER	MODEL	
AS-1	STORAGE 017	COALESCING	GEOTHERMAL WATER	3	3	25% PG	117	1	90.00	BELL & GOSSETT	CRSN-3F	

HGA
7475 Hubbard Avenue, Suite 201
Middleton, WI 53562

MECHANICAL/ELECTRICAL/ PLUMBING ENGINEER
HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN
2392 COUNTY F
BAILEYS HARBOR, WI 54202

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 5410-001-00

MECHANICAL SCHEDULES

DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

M800

SYMBOL EXPLANATION

A
23
b — 1 UPPER CASE LETTERS WITH NUMBER INDICATES LUMINAIRE TYPE. (REFER TO THE E500 LUMINAIRE SCHEDULE)
2 NUMBER INDICATES CIRCUIT CONNECTION
3. LOWER CASE LETTER INDICATES CONTROL DEVICE.

L6-30 — SPECIAL RECEPTACLES. THE NEMA STANDARD TYPE IS SHOWN WITH AN UPPER CASE LETTER. TYPE AS NOTED. EXAMPLE: NEMA L6-30R, 250V, SINGLE PHASE, 30A, TWIST-LOCK RECEPTACLE

PTR
2 — THE CIRCUIT DESIGNATION IS SHOWN BY NUMBER ADJACENT TO EQUIPMENT. ABBREVIATION NEXT TO CIRCUIT NUMBER INDICATES A DEDICATED CIRCUIT FOR THAT TYPE OF EQUIPMENT.
EXAMPLE: WALL MOUNTED DUPLEX RECEPTACLE ON DEDICATED CIRCUIT NUMBER 2 FOR A PRINTER.

J
EF-1 — SYMBOL WITH EQUIPMENT IDENTIFICATION. SEE MECHANICAL EQUIPMENT SCHEDULE FOR COMPLETE ELECTRICAL INFORMATION. EXAMPLE: EXHAUST FAN #1

— PLAN KEY NOTE. SEE KEY NOTE SCHEDULE ON THAT DRAWING. ARROW POINTS TO THE ITEM TO WHICH THE NOTE APPLIES.

C — CEILING MOUNTED FIRE ALARM DEVICES SHALL HAVE THE LETTER "C" NEXT TO THE DEVICE.

TAMPERPROOF RECEPTACLES. ANY DEVICE WITH A SLASH THROUGH THE CENTER OF THE DEVICE SHALL BE A TAMPERPROOF DEVICE.

IG — ISOLATED GROUND RECEPTACLES. ANY DEVICE WITH AN "IG" TAG NEXT TO THE DEVICE SHALL INCLUDE A TERMINAL/LUG FOR AN ISOLATED GROUND CONDUCTOR.

DASHED SYMBOL INDICATES EXISTING DEVICES TO BE REMOVED.

HALFTONED SYMBOL INDICATES EXISTING DEVICES TO REMAIN.

LIGHT FIXTURES ON CRITICAL POWER CIRCUIT.

LIGHT FIXTURES ON LIFE SAFETY (S) POWER CIRCUIT.

INDIRECT LIGHT FIXTURE (ORIENTATION OF BASKET INDICATED BY LINE IN CENTER OF FIXTURE).

CEILING MOUNTED DRY TYPE TRANSFORMER.

RECESSED MOUNTED PANELBOARD.

ELECTRICAL SYMBOLS

ELECTRICAL SYMBOLS - LIGHTING FIXTURES

SYMBOL	DESCRIPTION	NOMINAL MOUNTING HEIGHT
□ ○	RECESSED MOUNTED LIGHT FIXTURE	

ELECTRICAL SYMBOLS - POWER DEVICES

SYMBOL	DESCRIPTION	NOMINAL MOUNTING HEIGHT
◇	MOTOR	

ELECTRICAL SYMBOLS - FIRE ALARM

SYMBOL	DESCRIPTION	NOMINAL MOUNTING HEIGHT

ELECTRICAL SYMBOLS - LIGHTING DEVICES

SYMBOL	DESCRIPTION	NOMINAL MOUNTING HEIGHT
ⓞ	CEILING MOUNTED OCCUPANCY SENSOR	
$	SWITCH - 1 POLE	
$D	SWITCH - DIMMER	

ELECTRICAL SYMBOLS - POWER DISTRIBUTION

SYMBOL	DESCRIPTION	NOMINAL MOUNTING HEIGHT
↳□	DISCONNECT SWITCH	
	PANELBOARD OR DISTRIBUTION PANEL	

** SEE DRAWING, SPECIFICATION OR LIGHTING FIXTURE SCHEDULE FOR MOUNTING HEIGHT

*** SEE ONE-LINE/RISER DIAGRAMS AND FEEDER SCHEDULE DRAWINGS FOR ADDITIONAL SYMBOLS AND EQUIPMENT NAMING CONVENTIONS.

* REFER TO FIRE ALARM DRAWINGS AND EQUIPMENT/DEVICE ELEVATION FOR MOUNTING HEIGHTS.

ABBREVIATIONS

SYMBOL	DESCRIPTION
A	
A or AMP	AMPERE
A/V or AV	AUDIO/VISUAL
AC	ALTERNATING CURRENT
ACS	AUTOMATIC CONTROL SYSTEM
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING RATING
AL	ALUMINUM
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
B	
BAS	BUILDING AUTOMATION SYSTEM
BMS	BUILDING MANAGEMENT SYSTEM
C	
C	CONDUIT
CATV	CABLE TELEVISION
CLG	CEILING
CO2	CARBON DIOXIDE
COFF	COFFEE MAKER
CU	COPPER
D	
dB	DECIBEL
DC	DIRECT CURRENT
DED	DEDICATED CIRCUIT
DIA	DIAMETER
DL	DELUGE FIRE SPRINKLER
DW	DISH WASHER
E	
ELEC	ELECTRICAL
EMI	ELECTROMAGNETIC INTERFERENCE
EMT	ELECTRICAL METALLIC TUBING
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER

SYMBOL	DESCRIPTION
F	
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUCIATOR PANEL
FACU	FIRE ALARM CONTROL UNIT
FLA	FULL-LOAD AMPERE
FP	FURNITURE POWER
FSS	FUSED SAFETY SWITCH
G	
GAP	GENERATOR ANNUCIATOR PANEL
GD	GARBAGE DISPOSAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
H	
HH	HANDHOLE
HMT	HARMONIC MITIGATING TRANSFORMER
HP	HORSE POWER
HRZ	HORIZONTAL
Hz	HERTZ
I	
I/O	IN-BOARD/OUT-BOARD
IG	ISOLATED GROUND
IP	INTERNET PROTOCOL
IPC	INTERGRATED POWER CENTER
IR	INFRARED
K	
kHz	KILOHERTZ
KK	KIRK KEY
KV	KILOVOLT
KVA	KILOVOLT-AMPERE
KW	KILOWATT
L	
LAN	LOCAL AREA NETWORK
LCP	LIGHTING CONTROL PANEL
LED	LIGHT EMITTING DIODE

SYMBOL	DESCRIPTION
LV	LOW-VOLTAGE
M	
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MH	MANHOLE
MLO	MAIN LUG ONLY
MOCP	MAXIMUM OVERCURRENT PROTECTION
MSS	MOTOR STARTER SWITCH
MTD	MOUNTED
MV	MEDIUM VOLTAGE
MW	MICROWAVE
N	
N	NEUTRAL
NAC	NOTIFICATION APPLIANCE CIRCUIT
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NFSS	NON-FUSED SAFETY SWITCH
NTS	NOT TO SCALE
O	
OC	ON CENTER
OCPD	OVER CURRENT PROTECTIVE DEVICE
P	
P	POLE
PB	PULL BOX
PF	POWER FACTOR
PH or Ø	PHASE
PNL	PANEL
POS	POINT OF SALE
PR	PAIR
PRI	PRIMARY
PTR	PRINTER
PTZ	PAN TILT ZOOM

SYMBOL	DESCRIPTION
PVC	POLYVINYL CHLORIDE
R	
RCPT	RECEPTACLE
REF	REFRIGERATOR
RF	RADIO FREQUENCY
RX	RECEIVE/RECEIVER
S	
SCCR	SHORT CIRCUIT CURRENT RATING
SEC	SECONDARY
SPD	SURGE PROTECTION DEVICE
ST	SHUNT TRIP
STP	SHIELDED TWISTED PAIR
T	
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TELECOM	TELECOMMUNICATIONS
TGB	TELECOMMUNICATIONS GROUNDING BUSBAR
TIA	TELECOMMUNICATIONS INDUSTRIES ASSOCIATION
TYP	TYPICAL
U	
UL	UNDERWRITERS LABORATORIES
UON/UNO	UNLESS OTHERWISE NOTED/UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTABLE POWER SUPPLY
UTP	UNSHIELDED TWISTED PAIR
V	
V	VOLT
VA	VOLT-AMPERE
VEND	VENDING
VSD/VFD/VFC	VARIABLE SPEED DRIVE/ FREQUENCY DRIVE / FREQUENCY CONTROLLER
W	
W	WATT
WAP	WIRELESS ACCESS POINT

SYMBOL	DESCRIPTION
WP	WEATHER-PROOF
X	
(X)	EXISTING TO BE DEMOLISHED
XFMR	TRANSFORMER

* REFER TO SPECIFICATION SECTIONS 260500 FOR ADDITIONAL ABBREVIATIONS.

GENERAL NOTES

GENERAL NOTES:

A. ELECTRICAL ORDINANCES:
ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND FEDERAL LAWS OR ORDINANCES GOVERNING THE PROJECT. IF, IN ANY INSTANCE, THE PLANS AND SPECIFICATIONS ARE IN DIRECT CONFLICT WITH SUCH CODES, LAWS OR ORDINANCES, THE CODE, LAWS AND ORDINANCES SHALL HAVE JURISDICTION AND THE WORK IN QUESTION SHALL BE INSTALLED ACCORDING TO THE CODES, LAWS AND ORDINANCES. ALL WORK SHALL BE INSTALLED UNDER THE SUPERVISION OF A LICENSED MASTER ELECTRICIAN.

B. BRING DISCREPANCIES SHOWN ON DIFFERENT DRAWINGS AND BETWEEN DRAWINGS AND SPECIFICATIONS OR BETWEEN DOCUMENTS AND FIELD CONDITIONS TO THE IMMEDIATE ATTENTION OF THE ARCHITECT.

C. COORDINATE ELECTRICAL INSTALLATION WITH ALL OTHER CONTRACTORS AND OWNER FOR THE LOCATION AND SIZES OF ALL EQUIPMENT PRIOR TO ROUGH-IN. SHOULD ELECTRICAL WORK BE INSTALLED WHICH INTERFERES WITH THE WORK OF OTHER CONTRACTORS OR OWNER, SUCH WORK SHALL BE CHANGED WITH NO ADDITIONAL COST TO OWNER.

D. MOUNT EQUIPMENT AT NOMINAL MOUNTING HEIGHT INDICATED IN ELECTRICAL SYMBOL SCHEDULE UNLESS NOTED OTHERWISE ON THE FLOOR PLANS OR DETAILED IN ARCHITECTURAL ELEVATIONS. DIMENSION SHOWN IS TO CENTER LINE OF BOX. SEE ARCHITECTURAL INTERIOR AND EXTERIOR ELEVATIONS FOR EXACT LOCATION OF WALL MOUNTED DEVICES AND LIGHT FIXTURES.

E. CONDUCTORS SHALL BE COPPER, UNLESS SPECIFIED OTHERWISE. BUILDING POWER WIRING SHALL HAVE THHN/THWN INSULATION. CONDUCTOR AMPACITY SHALL BE BASED ON TABLE 310-16 OF THE NEC. USE 60-DEGREE C RATING FOR CIRCUITS TERMINATING ON DEVICES RATED BELOW 100A. USE 75-DEGREE RATING FOR CIRCUITS TERMINATING ON DEVICES AND IN ENCLOSURES RATED 100A AND OVER.

F. INSTALL INSULATED GREEN EQUIPMENT GROUNDING CONDUCTOR WITH ALL BRANCH CIRCUIT AND FEEDER CONDUCTORS, SIZED IN ACCORDANCE WITH NEC ARTICLE 250.

G. DRAWINGS INDICATE DESIGN LOADS, VOLTAGES, CORRESPONDING CONTROL EQUIPMENT, FEEDERS AND OVER CURRENT DEVICES. IF EQUIPMENT ACTUALLY FURNISHED HAVE LOADS OTHER THAN THOSE INDICATED ON THE DRAWINGS OR SPECIFIED HEREIN, CONTROL EQUIPMENT, FEEDERS AND OVER CURRENT DEVICES SHALL BE ADJUSTED IN SIZE ACCORDINGLY AT NO ADDITIONAL COST TO THE OWNER. SUCH ADJUSTMENT SHALL BE SUBJECT TO THE REVIEW OF THE ARCHITECT PRIOR TO ACCEPTANCE OR PURCHASE.

H. ALL DEVICES SHALL BE INSTALLED TO COMPLY WITH ADA STANDARDS FOR ACCESSIBLE DESIGN.

I. IN GENERAL, BRANCH CIRCUIT CONDUIT AND WIRE IS NOT SHOWN. PROVIDE CONDUIT AND WIRE TO CONNECT DEVICES TO CIRCUITS SHOWN. WIRE FILL AND CONDUCTOR SIZE SHALL BE AS SPECIFIED. PROVIDE A MAXIMUM OF THREE PHASE CONDUCTORS IN A SINGLE HOME RUN. PROVIDE A DEDICATED NEUTRAL FOR EACH PHASE CONDUCTOR UNLESS OTHERWISE NOTED. INSTALL PULL BOXES AND JUNCTION BOXES AS REQUIRED TO AID IN THE INSTALLATION OF CABLES AND CONDUCTORS. LABEL LOCATION OF POWER CIRCUITS ON COVER OF ALL RECEPTACLES AND ON COVER OF JUNCTION BOXES AND BOXES ASSOCIATED WITH EQUIPMENT. INCLUDE PANEL AND CIRCUIT IDENTIFICATION. LABEL LOCATION OF POWER CIRCUITS ON COVER OF ALL LIGHT SWITCHES. INCLUDE PANEL AND CIRCUIT IDENTIFICATION.

J. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR FINAL LOCATION OF CEILING MOUNTED EQUIPMENT. MOUNT RECESSED CEILING FIXTURES WITH FLEXIBLE METAL CONDUIT OF LENGTH REQUIRED TO MEET MOUNTING LOCATION AND NEC REQUIREMENTS. MAXIMUM FLEXIBLE CONDUIT LENGTH SHALL BE (6') SIX FEET (1828mm).

K. INSTALL ALL ITEMS NECESSARY TO COMPLETE THE INSTALLATION. TOUCH-UP OR REFINISH THE FACTORY FINISH OF EQUIPMENT MARRED DURING SHIPMENT, DEMOLITION OR INSTALLATION.

L. SUBMIT SHOP DRAWINGS OF ALL NEW EQUIPMENT, DEVICES, FIXTURES AND CABLES/CONDUCTORS TO BE INSTALLED IN SYSTEM FOR WRITTEN APPROVAL FROM ENGINEER PRIOR TO INSTALLATION. REFER TO SPECIFICATIONS FOR ADDITIONAL SUBMITTAL REQUIREMENTS.

M. ALL WORK SHALL BE GUARANTEED FREE FROM DEFECTS FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE.

N. ELECTRICAL DEVICES, LIGHT FIXTURES, AND EQUIPMENT SHOWN AS DASHED ARE TO BE DEMOLISHED. ELECTRICAL DEVICES/EQUIPMENT SHOWN WITH LIGHT SOLID LINE TYPE ARE EXISTING TO REMAIN. ANY ITEMS TO BE TURNED OVER TO FACILITIES MANAGEMENT WILL BE NOTED.

O. MAINTAIN FIRE RATING WHERE RACEWAYS, CABLING, DEVICES, ETC. PENETRATE A FIRE RATED STRUCTURE. REFER TO THE ARCHITECTURAL DRAWINGS FOR LOCATION OF FIRE RATED WALLS AND CEILINGS. FIRE PROOF ALL PENETRATIONS AS REQUIRED.

P. SEAL INTERIOR OF ALL CONDUITS WHERE THEY PENETRATE WALLS, FLOORS, OR CEILINGS ENTERING OR EXITING STAIRWELLS.

Q. COORDINATE DOOR HARDWARE REQUIREMENTS WITH ARCHITECTURAL DOOR HARWARE SCHEDULE AND SPECIFICATIONS SECTION 087100.

R. EXISTING EQUIPMENT, DEVICES, AND LIGHTS INDICATED ON PLAN WERE TAKEN FROM EXISTING PLANS AND SHALL NOT BE CONSIDERED 100% ACCURATE. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO FIELD VERIFYING LOCATIONS OF EXISTING SYSTEMS PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES WHICH MAY AFFECT ANY WORK UNDER THIS CONTRACT.

POWER NOTES:

S. PROVIDE MINIMUM #12 AWG CONDUCTORS FOR HOMERUNS, #10 AWG CONDUCTORS FOR HOMERUNS THAT EXCEED 100 FEET (30480mm) FOR 120 VOLT CIRCUITS.

LIGHTING NOTES:

T. PROVIDE AUXILIARY CONTACTS WITH ALL OCCUPANCY AND VACANCY SENSORS FOR BAS/BMS STATUS OUTPUT.

U. LIGHT SWITCHES SHALL BE MOUNTED ON LATCH SIDE OF DOOR, WITHIN 12 INCHES (305mm) OF DOOR/SIDELIGHT FRAMING, UNLESS NOTED OTHERWISE. LIGHT SWITCHES INSTALLED ADJACENT TO DOOR SWINGS SHALL BE MOUNTED CLEAR OF DOOR SWING AND WITHIN 12 INCHES (305mm) OF DOOR IN OPEN POSITION. COORDINATE LOCATION WITH OTHER WALL DEVICES

DRAWING INDEX - ELECTRICAL

HGA
7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

ARCHITECTURE
HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

ELECTRICAL ENGINEER
HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

MECHANICAL/ PLUMBING ENGINEER
HGA
7475 HUBBARD AVENUE
MIDDLETON, WI 53562
(608) 554-5333

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN

2392 COUNTY F
BAILEYS HARBOR, WI 54202

WISCONSIN — KEVIN M. STANDLEE E-42707 CEDARBURG — PROFESSIONAL ENGINEER
5/31/2025

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 5410-001-00

ELECTRICAL GENERAL NOTES AND SYMBOLS

DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

E000

Author 8/7/2025, 10:39:16 AM Autodesk Docs://Bailey's Harbor_Geothermal Design_5410-001-00/E25_Bailey's Harbor Geothermal_5410-001-00.rvt

ELECTRICAL MECHANICAL EQUIPMENT SCHEDULE

TAG	LOCATION	EMERGENCY POWER	HP	KW	FLA	MCA	OCP	VOLTAGE	PHASE	LOAD	SCCR	PANEL	CIRCUIT #	CONDUIT AND WIRE	DISCONNECT FURNISHED	DISCONNECT SIZE	VSD	STARTER SIZE	VSD OR STARTER RESPONSIBILITY			CONTROL RESPONSIBILITY			START-STOP CONTROL DEVICE	OTHER EQUIPMENT INTERLOCKS / REMARKS
																			FURNISHED	INSTALLED	WIRED	FURNISHED	INSTALLED	WIRED		
CABINET UNIT HEATER																										
CAB-1	RECYCLING ROOM 018	No		1	8.3	10.4	20	120 V	1	1000 VA		M	1	2#12, 1#12 GND IN 3/4" C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
CAB-2	WOMEN'S RR 104	No		1	8.3	10.4	20	120 V	1	1000 VA		B	16	2#12, 1#12 GND IN 3/4" C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
CAB-3	LIBRARY WORKROOM 001	No		1	8.3	10.4	20	120 V	1	1000 VA		B	1	2#12, 1#12 GND IN 3/4" C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
CAB-4	LOBBY 208	No		5	13.9	17.4	20	208 V	3	5000 VA		M	3,5,7	3#12, 1#12 GND IN 3/4" C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
CAB-5	CORRIDOR 100	No		5	13.9	17.4	20	208 V	3	5000 VA		A	31,33,35	3#12, 1#12 GND IN 3/4" C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
CAB-6	CORRIDOR 100	No		5	13.9	17.4	20	208 V	3	5000 VA		M	26,28,30	3#12, 1#12 GND IN 3/4" C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
CAB-7	LOBBY 200	No		5	13.9	17.4	20	208 V	3	5000 VA		A	25,27,29	3#12, 1#12 GND IN 3/4" C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
CAB-8	KITCHEN 203	No		1	8.3	10.4	20	120 V	1	1000 VA		M	9	2#12, 1#12 GND IN 3/4" C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
CAB-9	WOMEN'S RR 022	No		1	8.3	10.4	20	120 V	1	1000 VA		M	11	2#12, 1#12 GND IN 3/4" C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
CAB-10	MEN'S RR 105	No		1	8.3	10.4	20	120 V	1	1000 VA		M	13	2#12, 1#12 GND IN 3/4" C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
CAB-11	STAIR 002	No		3	14.4	18	20	208 V	3	3000 VA		M	15,17,19	3#12, 1#12 GND IN 3/4" C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
CAB-12	MEN'S RR 021	No		1	8.3	10.4	20	120 V	1	1000 VA		M	21	2#12, 1#12 GND IN 3/4" C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
CEILING FAN																										
CF-1	AUDITORIUM 204	No					20	120 V	1	0 VA				2#12, 1#12 GND IN 3/4" C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
CF-2	AUDITORIUM 204	No					20	120 V	1	0 VA				2#12, 1#12 GND IN 3/4" C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
ELECTRIC UNIT HEATER																										
EUH-1	VISITOR'S CENTER 207	No		5	26		30	208 V	1	5000 VA		M	42,44	3#8, 1#10 GND IN 3/4"C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
ENERGY RECOVERY VENTILATOR																										
ERV-1	MECHANICAL ROOM 014	No	1		26	32.5	35	120 V	1	3120 VA		M	23	3#8, 1#10 GND IN 3/4"C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
FIN TUBE RADIATION - ELECTRIC																										
FTRE-1	CORRIDOR 019	No		1.75	8.4	10.5	20	208 V	1	1750 VA		M	32,34	2#12, 1#12 GND IN 3/4" C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
FTRE-2	VISITOR'S CENTER 207	No		2.5	12.0	15	20	208 V	1	2500 VA		M	25,27	2#12, 1#12 GND IN 3/4" C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
FTRE-3	VISITOR'S CENTER 207	No		2	9.6	12	20	208 V	1	2000 VA		M	29,31	2#12, 1#12 GND IN 3/4" C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
FTRE-4	LIBRARY	No		3	14.4	18	20	208 V	1	3000 VA		M	33,35	2#12, 1#12 GND IN 3/4" C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
FTRE-5	LIBRARY	No		1.2	5.8	7.25	20	208 V	1	1200 VA		M	37,39	2#12, 1#12 GND IN 3/4" C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
PUMP																										
PGW-1	STORAGE 017	No	7.5		25.3	31.6	50	208 V	3	9115 VA		M	2,4,6	3#8, 1#10 GND IN 3/4"C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
PGW-2	STORAGE 017	No	7.5		25.3	31.6	50	208 V	3	9115 VA		M	8,10,12	3#8, 1#10 GND IN 3/4"C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
WATER-TO-AIR HEAT PUMP																										
HP-1	MECHANICAL ROOM 014	No	7.2		58.8	71.2	100	208 V	3	21184 VA		M	14,16,18	3#4, 1#8 GND IN 1"C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
HP-2	MECHANICAL ROOM 014	No	7.2		58.8	71.2	100	208 V	3	21184 VA		M	20,22,24	3#4, 1#8 GND IN 1"C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
HP-3	MEN'S RR 105	No	7.2		58.8	71.2	100	208 V	3	21184 VA		MDP	4	3#4, 1#8 GND IN 1"C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		
HP-4	VISITOR'S CENTER 207	No	1		17.2	19.8	30	208 V	3	1752 VA		M	36,38,40	3#12, 1#12 GND IN 3/4" C	W/ EQUIP	W/ EQUIP	NO	W/ EQUIP	W/ EQUIP	W/ EQUIP	W/ EQUIP	DIV. 23	DIV. 23	DIV. 23		

GENERAL NOTES (ELECTRICAL MECHANICAL EQUIPMENT SCHEDULE):

A. SEPARATE LINE, LOAD, AND CONTROL CONDUCTORS IN SEPARATE CONTINUOUS METALLIC CONDUITS. PROVIDE FERROUS METALLIC SHIELDING AROUND EACH VSD CONDUCTOR GROUP WHEN CONDUCTORS ARE INSTALLED IN WIREWAY OR GUTTER. THE CONTRACTOR MAY SUBMIT SHIELDED CONDUCTOR CABLE ASSEMBLIES DESIGNED FOR OPERATION WITH VSD'S.

B. PROVIDE ALL POWER CONNECTION INCLUDING WIRING ASSOCIATED WITH ANY ISOLATION TRANSFORMER DISCONNECT REACTORS, FILTERS, AND ANY ACCESSORIES. INCLUDE POWER WIRING FROM THE VSD TO THE MOTOR, AS WELL AS ALL GROUNDING CONNECTIONS.

C. WHERE IT IS NOT POSSIBLE TO INSTALL MOTORS WITHIN THE SIGHT OF THE VSD PROVIDE A DISCONNECT SWITCH AT THE MOTOR AS REQUIRED BY THE NEC OR REQUIRED BY THE SPECIFICATIONS. PROVIDE AN INTERLOCKING CONNECTION BETWEEN THE DISCONNECT AT THE MOTOR AND THE VSD TO PREVENT THE VFC FROM OPERATING IN A NO LOAD SITUATION.

D. ALL CONNECTIONS TO THE VSD SHALL BE WITH A MINIMUM 18 INCHES OF SEAL TIGHT FLEXIBLE CONDUIT, ALLOWING FOR EASE OF MAINTENANCE.

E. PROVIDE SEPARATE GROUNDING CONDUCTOR TO THE VSD AND BETWEEN THE VSD AND THE MOTOR IN ADDITION TO THE CONDUIT SYSTEM.

F. PROVIDE INTEGRAL OVERCURRENT PROTECTION DEVICE WITH VSDs. REFER TO VSD SPECIFICATION.

G. INSTALL BRAIDED HIGH FREQUENCY GROUND STRAP BETWEEN MOTOR FRAME LUG AND NEAREST GROUNDING ELECTRODE. IF MOTOR IS MOUNTED ON CONCRETE HOUSEKEEPING PAD PROVIDE GROUNDING ELECTRODE CONDUCTOR TO EACH PAD.

H. EQUIPMENT INFORMATION IN SCHEDULE IN BASED ON DESIGN EQUIPMENT. FINAL REQUIREMENTS TO BE COORDINATED WITH EQUIPMENT PROVIDED BY DIVISION 22, 23 AND 26.

I. WIRE SIZE IS BASED ON MCA REQUIREMENTS OF EQUIPMENT WITHOUT CONSIDERATION FOR VOLTAGE DROP BASED ON INSTALLED WIRE LENGTHS.

GENERAL NOTES (ONE-LINE):

A. REFER TO THE MECHANICAL DRAWINGS AND COORDINATE WITH DIVISION 23 FOR EXACT LOCATIONS OF MECHANICAL EQUIPMENT.

B. REFER TO FEEDER SCHEDULE FOR WIRE AND CONDUIT SIZES AS WELL AS FEEDER REQUIREMENTS.

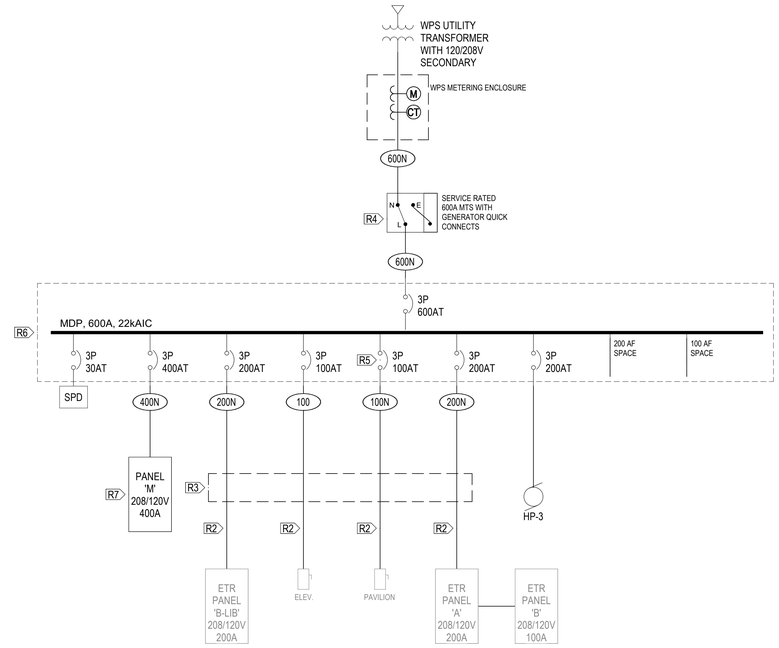
C. REFER TO PANEL SCHEDULES FOR RATINGS AND ADDITIONAL REQUIREMENTS OF PANELBOARDS AND DISTRIBUTION BOARDS.

D. ELECTRICAL FEEDERS AND EQUIPMENT SHOWN WITH HALFTONED/LIGHT LINES ARE EXISTING TO REMAIN. ALL ELECTRICAL EQUIPMENT SHOWN WITH BOLD/DARK LINES ARE NEW.

KEYNOTES

#	DESCRIPTION
R1	SAVE EXISTING WIREWAY FOR RELOCATION AND CONNECTION OF EXISTING PANELBOARD AND DISCONNECTS TO NEW SERVICE.
R2	PULL BACK 18-24" OF CONDUCTOR. SPLICE EXISTING FEEDER TO NEW CONDUCTORS IN RELOCATED WIREWAY.
R3	RELOCATE WIREWAY TO INTERCEPT CONDUIT FOR PANEL 'B-LIB'. DISCONNECT FOR ELEVATOR, AND DISCONNECT FOR PAVILION. CLOSE UNUSED OPENINGS WITH LISTED CLOSURE.
R4	PROVIDE ASCO MANUAL TRANSFER SWITCH WITH GENERATOR QUICK CONNECTS OR ENGINEER APPROVED EQUAL. BASIS OF DESIGN: J-GMUQ-A-3-0600-00-M.
R5	FIELD VERIFY FEEDER SIZE AND OVERCURRENT PROTECTIVE DEVICE FOR PAVILION.
R6	PROVIDE SQUARE D I-LINE SERVICE RATED 600A MAIN CIRCUIT BREAKER PANEL HCJ, CU BUS OR ENGINEER APPROVED EQUAL.
R7	PROVIDE SQUARE D QOB 400A MLO 54-CIRCUIT PANELBOARD OR ENGINEER APPROVED EQUAL.

1 ELECTRICAL ONE-LINE/RISER DIAGRAM - DEMOLITION
1/8" = 1'-0"



2 ELECTRICAL ONE-LINE/RISER DIAGRAM - NEW
1/8" = 1'-0"

FEEDER (AMPS)	FEEDER AND CONDUIT SIZES - CU	
	CONDUIT	CONDUCTOR
100	1-1/2"	3#1 & 1#8 GND
100N	2"	4#1 & 1#8 GND
200N	2 1/2"	4#3/0 & 1#6 GND
400N	(2) #2"	4#3/0 & 1#3 GND
600N	(2) 3"	4#350 & 1#1 GND

NOTES:

* VOLTAGE DROP NOT TAKEN INTO CONSIDERATION IN TABLE.

* CONDUIT SIZED TO ACCOMMODATE LARGER OF THHN, THWN, AND XHHW WIRE TYPES. COORDINATE WITH ENGINEER IF ALTERNATE WIRE TYPE IS UTILIZED.

* CONDUIT SIZED TO ACCOMMODATE EMT, SCHEDULE 40 PVC, AND SCHEDULE 80 PVC. COORDINATE WITH ENGINEER IF ALTERNATE PATHWAY TYPE IS UTILIZED.

* WIRE IS SIZED FOR TERMINATION AT ELECTRICAL EQUIPMENT WITH LUGS RATED FOR 75 DEGREES C OR GREATER AND SHALL NOT BE UTILIZED FOR TERMINATIONS RATED LESS THAN 75 DEGREES C. COORDINATE WITH ENGINEER IF ELECTRICAL EQUIPMENT LUGS ARE NOT RATED FOR 75 DEGREES C OR GREATER.

* REFER TO ELECTRICAL MECHANICAL COORDINATION SCHEDULE FOR CONDUCTOR SIZES FOR MOTOR AND EQUIPMENT CONNECTION. REFER TO MECHANICAL, PLUMBING, FIRE PROTECTION, ETC. FOR ADDITIONAL EQUIPMENT REQUIREMENTS.

* REFER TO EQUIPMENT COORDINATION SCHEDULES AND POWER PLANS FOR MISC. EQUIPMENT CONDUCTOR SIZES.

100= 3 WIRES
100N= 4 WIRES
100K= 200% NEUTRAL
100I= ISOLATED GROUND

HGA
7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

ARCHITECTURE
HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

ELECTRICAL ENGINEER
HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

MECHANICAL/ PLUMBING ENGINEER
HGA
7475 HUBBARD AVENUE
MIDDLETON, WI 53562
(608) 554-5333

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN
2392 COUNTY F
BAILEYS HARBOR, WI 54202

PROFESSIONAL ENGINEER — WISCONSIN — KEVIN M. STANDLEE E-42707 CEDARBURG
8/21/2025

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 5410-001-00

ELECTRICAL RISER/ONE-LINE DIAGRAM

DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

E050

GENERAL NOTES

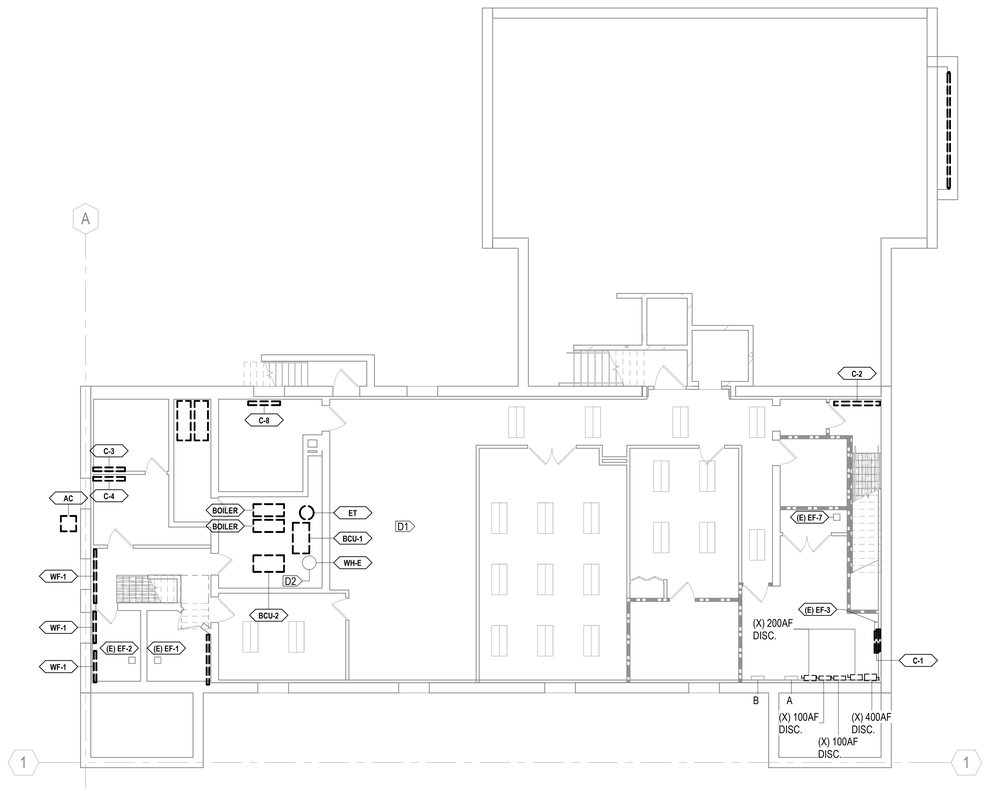
A. EXISTING EQUIPMENT, DEVICES, AND LIGHTS INDICATED ON PLAN WERE TAKEN FROM EXISTING PLANS AND/OR FIELD OBSERVATION, AND SHALL NOT BE CONSIDERED COMPLETELY ACCURATE. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING LOCATIONS OF EXISTING SYSTEMS PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES WHICH MAY AFFECT ANY WORK UNDER THIS CONTRACT.

B. CONTRACTOR SHALL FIELD VERIFY EXACT CONDITIONS PRIOR TO ANY DEMOLITION. ELECTRICAL CONTRACTOR SHALL MAINTAIN CONTINUITY OF ADJACENT CIRCUITS TO DEVICES OR EQUIPMENT THAT ARE TO REMAIN DURING CONSTRUCTION. REROUTE CONDUIT AND WIRING AS NECESSARY.

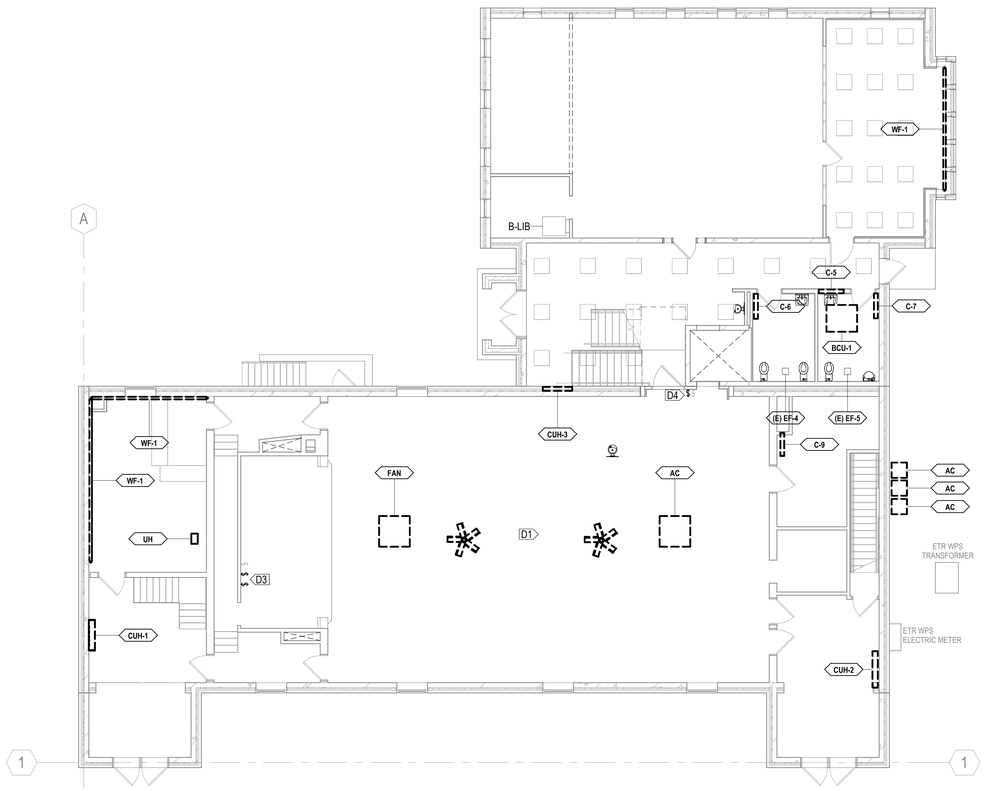
C. ELECTRICAL DEVICES AND EQUIPMENT SHOWN AS BOLD AND DASHED ARE TO BE DEMOLISHED AND IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO DISPOSE OF UNLESS NOTED OTHERWISE. ELECTRICAL DEVICES/EQUIPMENT SHOWN WITH HALFTONED/LIGHT SOLID LINE TYPE ARE EXISTING TO REMAIN. ANY ITEMS TO BE TURNED OVER TO FACILITIES MANAGEMENT WILL BE NOTED.

KEYNOTES

#	DESCRIPTION
D1	EXISTING LIGHTING AND CEILING FAN TO BE DEMOLISHED AND REPLACED. ISOLATE AND TAG EXISTING CIRCUITS FOR RECONNECTION. SALVAGE EXIT LIGHTS FOR REINSTALLATION.
D2	EXISTING ELECTRIC HOT WATER HEATER TO BE RELOCATED WITHIN THIS ROOM. ISOLATE AND TAG EXISTING CIRCUIT FOR RECONNECTION.
D3	REMOVE TWO SWITCHES FOR DUAL-LEVEL SWITCHING OF SOUTH TROFFERS. TAG AND ABANDON ONE SWITCH LEG. SAVE OTHER SWITCH LEG FOR 0-10 VOLT DIMMING. PROVIDE MATCHING BLANK TO FILL SWITCH PLATE.
D4	REMOVE LINE VOLTAGE SWITCH FOR NORTH TROFFERS. TO BE REPLACED WITH DIMMER.



1 DEMO PLAN - LOWER LEVEL
1/8" = 1'-0"



2 DEMO PLAN - TOWN HALL LEVEL 01
1/8" = 1'-0"

HGA

7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

ARCHITECTURE

HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

ELECTRICAL ENGINEER

HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

MECHANICAL/ PLUMBING ENGINEER

HGA
7475 HUBBARD AVENUE
MIDDLETON, WI 53562
(608) 554-5333

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN

2392 COUNTY F
BAILEYS HARBOR, WI 54202

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 5410-001-00

DEMOLITION PLAN

DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

E100

Author 8/7/2025 10:39:19 AM Autodesk Docs://Bailey's Harbor_Geothermal Design_5410-001-00/E25_Bailey's Harbor Geothermal_5410-001-00.rvt

LUMINAIRE SCHEDULE

AUTHOR: XXX

TYPE	DESCRIPTION	MOUNTING	LENS/REFLECTOR	LAMP/LUMENS	BALLAST/POWER SUPPLY	WATTS	VOLTAGE	MANUFACTURER	CATALOG NUMBER	EQUAL MANUFACTURERS	NOTES	REVISION HISTORY
F1	2X4 ARCHITECTURAL BASKET STYLE LED TROFFER	RECESSED CEILING	ACRYLIC FROSTED LENS	4500 LM, LED, 835	INTEGRAL 0-10V DIMMING	34 VA	120 V	METALUX	24RLN-LD5-45-UNV-LL835-CD-1	OR APPROVED EQUAL		
F2	6'X4" LINEAR RECESSED LED	RECESSED CEILING	FLUSH ACRYLIC FROSTED LENS	1000 LM/FOOT, LED, 835	INTEGRAL 0-10V DIMMING	58 VA	120 V	AXIS	BBRLED-1000-80-35-FL-6-W-UNV-DP-1-	OR APPROVED EQUAL	1	

GENERAL NOTES:

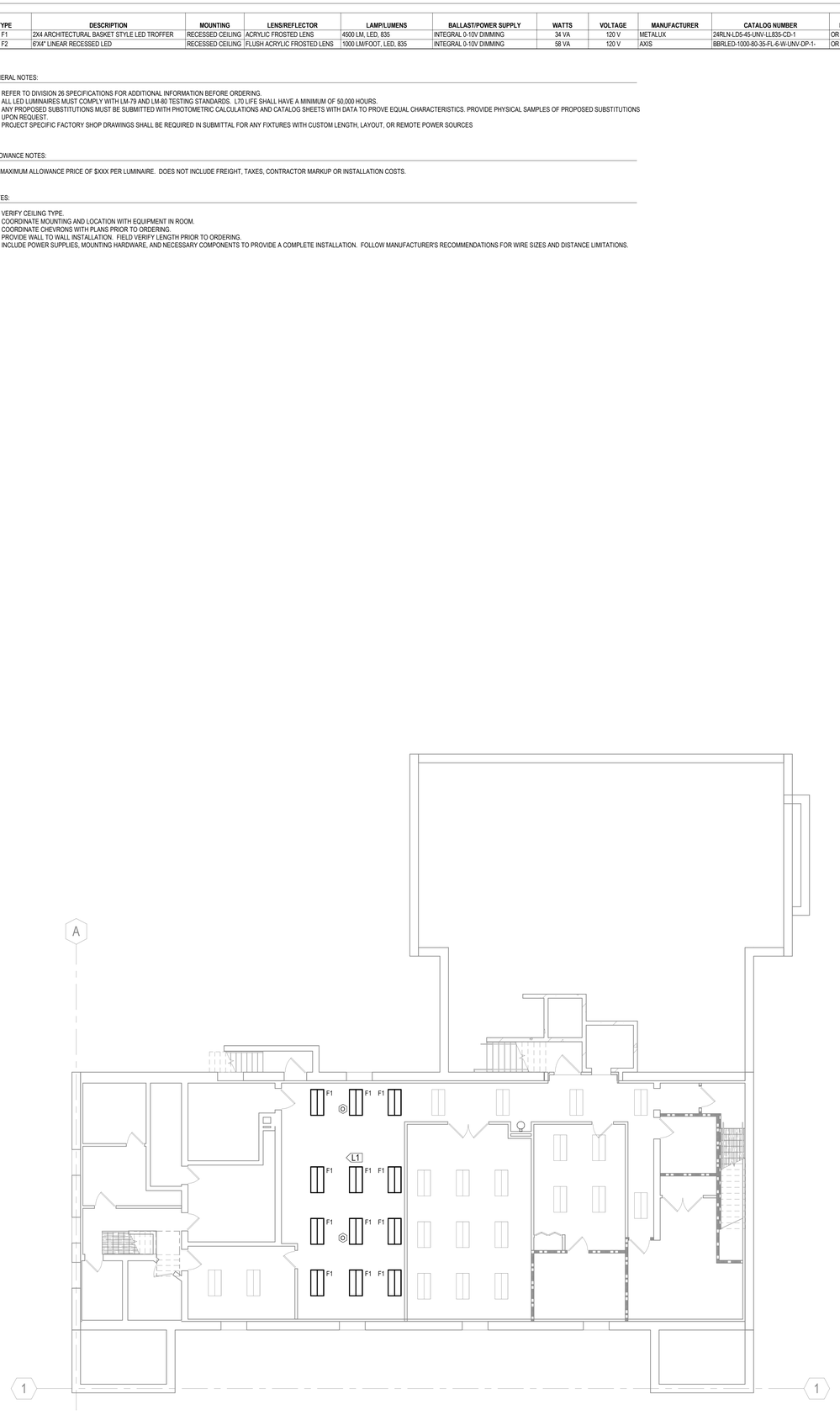
A. REFER TO DIVISION 26 SPECIFICATIONS FOR ADDITIONAL INFORMATION BEFORE ORDERING.
B. ALL LED LUMINAIRES MUST COMPLY WITH LM-79 AND LM-80 TESTING STANDARDS. L70 LIFE SHALL HAVE A MINIMUM OF 50,000 HOURS.
C. ANY PROPOSED SUBSTITUTIONS MUST BE SUBMITTED WITH PHOTOMETRIC CALCULATIONS AND CATALOG SHEETS WITH DATA TO PROVE EQUAL CHARACTERISTICS. PROVIDE PHYSICAL SAMPLES OF PROPOSED SUBSTITUTIONS UPON REQUEST.
D. PROJECT SPECIFIC FACTORY SHOP DRAWINGS SHALL BE REQUIRED IN SUBMITTAL FOR ANY FIXTURES WITH CUSTOM LENGTH, LAYOUT, OR REMOTE POWER SOURCES

ALLOWANCE NOTES:

A1. MAXIMUM ALLOWANCE PRICE OF $XXX PER LUMINAIRE. DOES NOT INCLUDE FREIGHT, TAXES, CONTRACTOR MARKUP OR INSTALLATION COSTS.

NOTES:

1. VERIFY CEILING TYPE.
2. COORDINATE MOUNTING AND LOCATION WITH EQUIPMENT IN ROOM.
3. COORDINATE CHEVRONS WITH PLANS PRIOR TO ORDERING.
4. PROVIDE WALL TO WALL INSTALLATION. FIELD VERIFY LENGTH PRIOR TO ORDERING.
5. INCLUDE POWER SUPPLIES, MOUNTING HARDWARE, AND NECESSARY COMPONENTS TO PROVIDE A COMPLETE INSTALLATION. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR WIRE SIZES AND DISTANCE LIMITATIONS.



1 LIGHTING PLAN - LOWER LEVEL
1/8" = 1'-0"

GENERAL NOTES

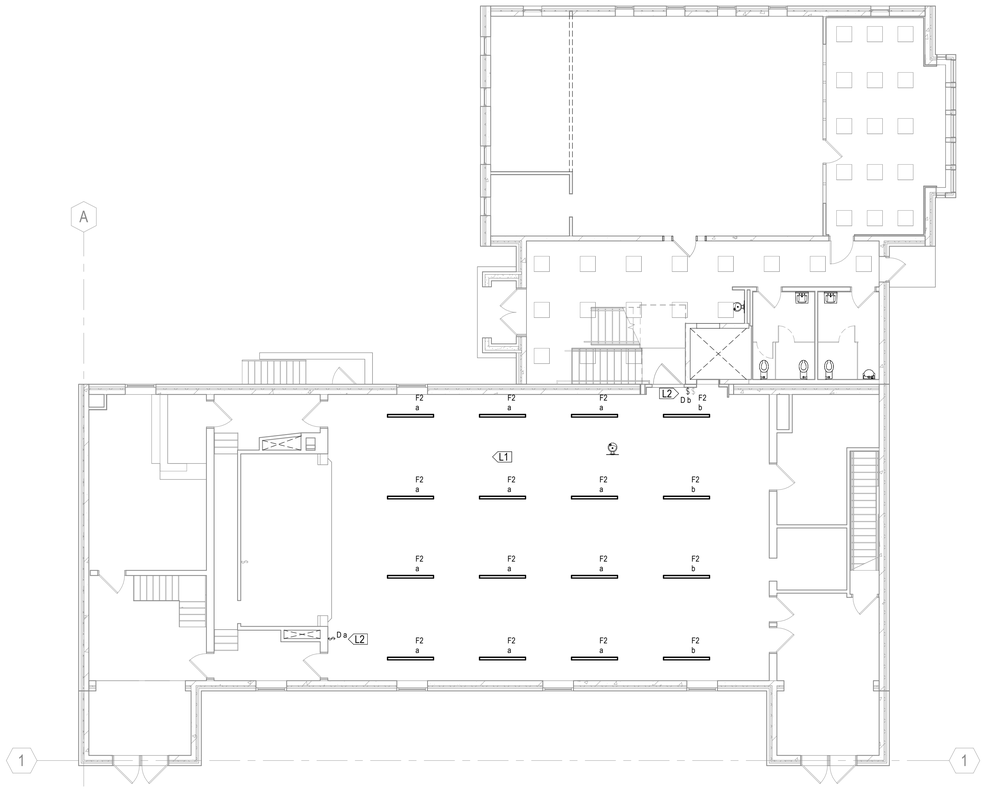
A. COORDINATE MOUNTING HEIGHTS AND LOCATIONS OF LUMINAIRES IN MECHANICAL ROOMS WITH DUCTS, PIPES, AND EQUIPMENT. MOUNT LUMINAIRES BELOW DUCTS AND PIPES AND DO NOT MOUNT LUMINAIRES OVER EQUIPMENT. SUPPORT LUMINAIRES INDEPENDENTLY OF DUCTS, PIPES, AND EQUIPMENT.

B. CONDUIT AND WIRING MAY NOT BE SHOWN GRAPHICALLY ON THE PLANS. PROVIDE COMPLETE CONDUIT AND WIRING BASED ON IDENTIFICATION OF CIRCUIT NUMBERS, RELAY NUMBERS, AND SWITCHING IDENTIFICATION.

C. WHERE OCCUPANCY AND VACANCY SENSORS ARE SHOWN, PROVIDE APPROPRIATE TYPES AND QUANTITIES OF SENSORS TO ACCOMMODATE ROOM GEOMETRY. REFER TO DIVISION 26 SPECIFICATIONS FOR DETAILS. INSTALL OCCUPANCY AND VACANCY SENSORS AT LOCATIONS RECOMMENDED BY MANUFACTURER. SEE OCCUPANCY AND VACANCY SENSOR SHOP DRAWINGS FOR REFERENCE.

KEYNOTES

#	DESCRIPTION
L1	REINSTALL SALVAGED EXIT LIGHTS.
L2	PROVIDE 0-10V DIMMER COMPATIBLE WITH LUMINAIRE.



2 LIGHTING PLAN - TOWN HALL LEVEL 01
1/8" = 1'-0"

HGA
7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

ARCHITECTURE

HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

ELECTRICAL ENGINEER

HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

MECHANICAL/ PLUMBING ENGINEER

HGA
7475 HUBBARD AVENUE
MIDDLETON, WI 53562
(608) 554-5333

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN

2392 COUNTY F
BAILEYS HARBOR, WI 54202

WISCONSIN
KEVIN M. STANDLEE
E-42707
CEDARBURG
PROFESSIONAL ENGINEER
7/31/2025

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 5410-001-00

LIGHTING PLANS

DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

E200

Author 8/7/2025 10:39:20 AM Autodesk Docs://Bailey's Harbor_Geothermal_Design_5410-001-00/E25_Bailey's Harbor Geothermal_5410-001-00.rvt

GENERAL NOTES

A. REFER TO E050 AND M800 SHEET FOR ADDITIONAL MOTOR INFORMATION.

B. ELECTRICAL & SYSTEMS DEVICES & EQUIPMENT SHOWN AS SCREENED ARE EXISTING TO REMAIN. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING LOCATIONS OF EXISTING SYSTEMS PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES WHICH MAY AFFECT ANY WORK UNDER THIS CONTRACT.

C. CONDUIT AND WIRING MAY NOT BE SHOWN GRAPHICALLY ON THE PLANS. HOWEVER IT SHALL BE PROVIDED COMPLETE AS REQUIRED BASED ON IDENTIFICATION OF CIRCUIT NUMBERS, RELAY NUMBERS, SWITCHING IDENTIFICATION, MOTOR EQUIPMENT SCHEDULE, PANEL BOUNDARIES, SPECIFIED MINIMUM CONDUIT SIZE, SPECIFIED MINIMUM CONDUCTOR SIZES, AND/OR SPECIFIED MINIMUM GROUNDING.

D. REFER TO ONE-LINE DIAGRAMS FOR ADDITIONAL INFORMATION FOR FEEDERS AND ELECTRICAL EQUIPMENT.

KEYNOTES

#	DESCRIPTION
P1	LOCATION OF 400A MCB PANELBOARD.
P2	CONNECT TO EXISTING CIRCUIT SAVED AND TAGGED DURING DEMOLITION.
P3	RECONNECT ELECTRIC WATER HEATER AT NEW LOCATION.

HGA

7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

ARCHITECTURE

HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

ELECTRICAL ENGINEER

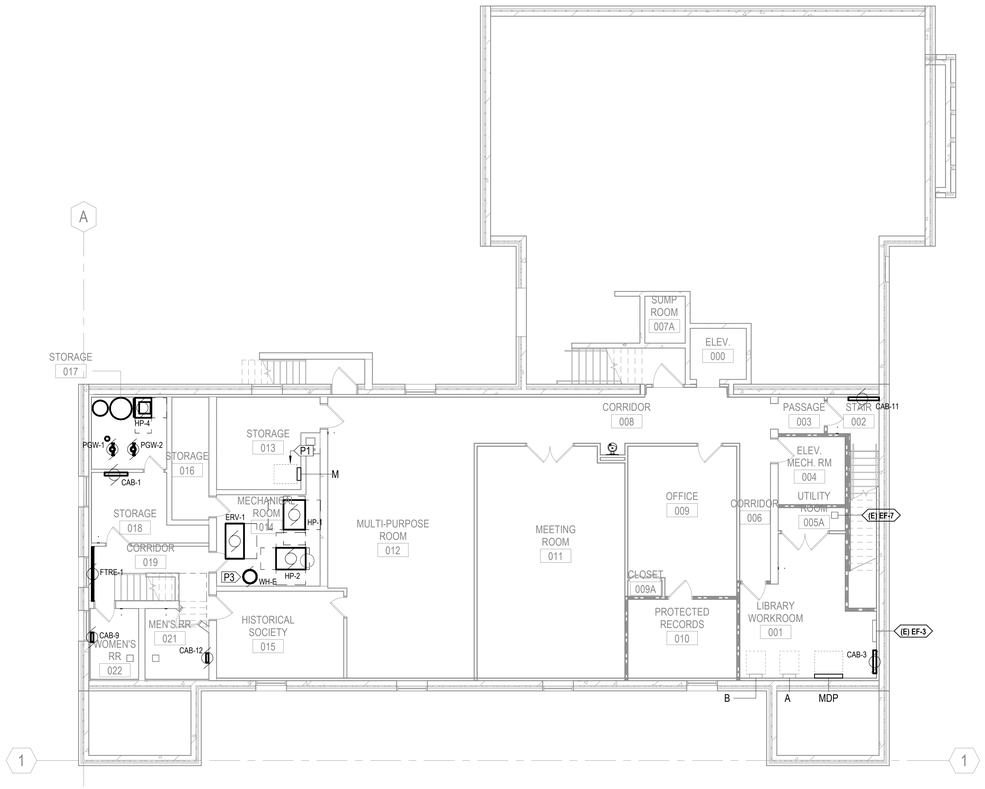
HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

MECHANICAL/ PLUMBING ENGINEER

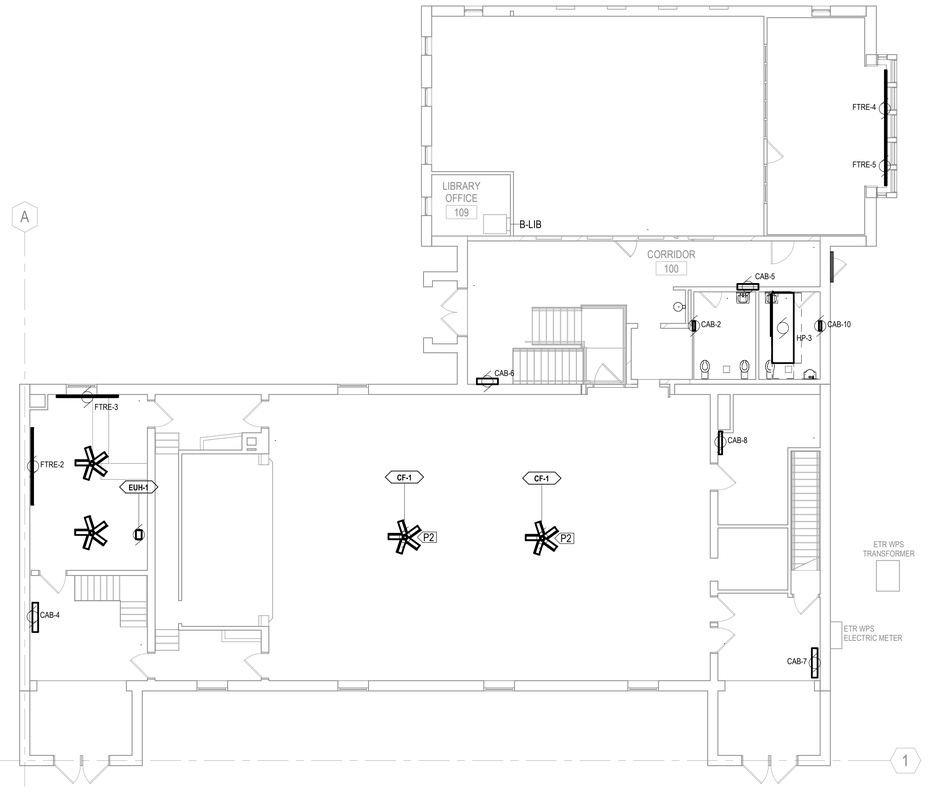
HGA
7475 HUBBARD AVENUE
MIDDLETON, WI 53562
(608) 554-5333

TOWN OF BAILEYS HARBOR GEOTHERMAL DESIGN

2392 COUNTY F
BAILEYS HARBOR, WI 54202



1 POWER PLAN - LOWER LEVEL
1/8" = 1'-0"



2 POWER PLAN - TOWN HALL LEVEL 01
1/8" = 1'-0"

KEVIN M. STANDLEE
E-42707
CEDARBURG
WISCONSIN
PROFESSIONAL ENGINEER
7/31/2025

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 5410-001-00

POWER PLANS

DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

E300

8/7/2025 10:39:21 AM Autodesk Docs://Bailey's Harbor_Geothermal Design_5410-001-00/E25_Bailey's Harbor Geothermal_5410-001-00.rvt Author

Panel: A

(EXISTING)
SQUARE D NQO

Location: LIBRARY WORKROOM 001
Supply From: MDP
Mounting: SURFACE
Enclosure Type: NEMA 1

Distribution System: 208/120V
Phase: 3
Wire: 4

SCCR Rating: EXISTING
Mains Type: MLO
Mains Rating: 225 A
MCB Rating: N/A

Note	Descriptions	Amps	Pole	CKT	A		B		C		CKT	Pole	Amps	Descriptions	Note
--	(E) LOAD	15 A	1	1	0 VA	0 VA					2	1	20 A	(E) LOAD	--
--	(E) LOAD	20 A	2	3			0 VA	0 VA			4	1	20 A	(E) LOAD	--
				5					0 VA	0 VA	6	1	20 A	(E) LOAD	--
--	(E) LOAD	20 A	1	7	0 VA	0 VA					8	1	20 A	(E) LOAD	--
--	(E) LOAD	20 A	1	9			0 VA	0 VA			10	1	20 A	(E) LOAD	--
--	(E) LOAD	20 A	1	11					0 VA	0 VA	12	1	20 A	(E) LOAD	--
--	(E) LOAD	20 A	1	13	0 VA	0 VA					14	1	20 A	(E) LOAD	--
--	(E) LOAD	20 A	1	15			0 VA	0 VA			16	1	20 A	(E) LOAD	--
--	(E) LOAD	20 A	1	17					0 VA	0 VA	18	1	20 A	(E) LOAD	--
--	(E) LOAD	30 A	2	19	0 VA	0 VA					20	2	60 A	(E) LOAD	--
				21			0 VA	0 VA			22				
--	(E) LOAD	20 A	1	23					0 VA	0 VA	24	1	20 A	(E) LOAD	--
1	CAB-7	20 A	3	25	1667 VA	0 VA					26	1	30 A	(E) LOAD	--
				27			1667 VA	0 VA			28	1	20 A	(E) LOAD	--
				29					1667 VA	0 VA	30	1	20 A	(E) LOAD	--
1	CAB-5	20 A	3	31	1667 VA	1000 VA					32	3	100 A	PANEL B	
				33			1667 VA	1000 VA			34				
				35					1667 VA	0 VA	36				
--	(E) LOAD	20 A	2	37	0 VA	0 VA					38	3	15 A	(E) LOAD	--
				39			0 VA	0 VA			40				
--	(E) LOAD	20 A	1	41					0 VA	0 VA	42				
					Phase A		Phase B		Phase C						
					4333 VA		4333 VA		3333 VA						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	12000 VA	110.42%	13250 VA		
				Total Conn. Load:	12000 VA
				Total Est. Demand:	13250 VA
				Total Conn. Current:	33 A
				Total Est. Demand Current:	37 A

Panelboard Notes:
1. NEW CIRCUIT BREAKER. CONFIRM THAT NEW BREAKER SHALL MATCH THE HIGHEST KAIC RATING WITHIN EQUIPMENT.

Panel: B

(EXISTING)
SQUARE D NQO

Location: LIBRARY WORKROOM 001
Supply From: A
Mounting: SURFACE
Enclosure Type: NEMA 1

Distribution System: 208/120V
Phase: 3
Wire: 4

SCCR Rating: EXISTING
Mains Type: MLO
Mains Rating: 100 A
MCB Rating: N/A

Note	Descriptions	Amps	Pole	CKT	A		B		C		CKT	Pole	Amps	Descriptions	Note
	CAB-3	20 A	1	1	1000 VA	0 VA					2				
--	(E) LOAD	20 A	1	3			0 VA	0 VA			4	3	25 A	(E) SPARE	--
--	(E) LOAD	20 A	1	5					0 VA	0 VA	6				
--	(E) SPARE	30 A	3	7	0 VA	0 VA					8	2	40 A	(E) SPARE	--
				9			0 VA	0 VA			10				
				11					0 VA	--	12	1	--	(E) LOAD	--
--	(E) SPARE	40 A	2	13	0 VA	--					14	1	--	(E) LOAD	--
				15			0 VA	1000 VA			16	1	20 A	CAB-2	1
--	(E) LOAD	20 A	1	17					0 VA	0 VA	18	2	70 A	(E) LOAD	--
--	(E) LOAD	20 A	1	19	0 VA	0 VA					20				
--	(E) LOAD	30 A	1	21			0 VA	0 VA			22	1	30 A	(E) LOAD	--
--	(E) LOAD	30 A	1	23					0 VA	0 VA	24	1	30 A	(E) LOAD	--
--	(E) LOAD	40 A	2	25	0 VA	0 VA					26	1	20 A	(E) LOAD	--
				27					0 VA	0 VA	28	1	20 A	(E) LOAD	--
--	(E) LOAD	20 A	1	29							30	1	20 A	(E) LOAD	--
					Phase A		Phase B		Phase C						
					1000 VA		1000 VA		0 VA						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	2000 VA	112.50%	2250 VA		
				Total Conn. Load:	2000 VA
				Total Est. Demand:	2250 VA
				Total Conn. Current:	6 A
				Total Est. Demand Current:	6 A

Panelboard Notes:
1. EXISTING CIRCUIT BREAKER TO BE REUSED.
2. NEW CIRCUIT BREAKER. CONFIRM THAT NEW BREAKER SHALL MATCH THE HIGHEST KAIC RATING WITHIN EQUIPMENT.

Panel: B-LIB

Location: LIBRARY OFFICE 109
Supply From: MDP
Mounting: SURFACE
Enclosure Type: NEMA 1

Distribution System: 208/120V
Phase: 3
Wire: 4

SCCR Rating: EXISTING
Mains Type: MLO
Mains Rating: 225 A
MCB Rating: N/A

Note	Descriptions	Amps	Pole	CKT	A		B		C		CKT	Pole	Amps	Descriptions	Note
--	(E) LOAD	15 A	1	1	0 VA	0 VA					2	1	15 A	(E) LOAD	--
--	(E) LOAD	20 A	1	3			0 VA	0 VA			4	2	50 A	(E) LOAD	--
--	(E) LOAD	20 A	1	5					0 VA	0 VA	6				
--	(E) LOAD	20 A	1	7	0 VA	0 VA					8	1	20 A	(E) LOAD	--
--	(E) LOAD	20 A	1	9			0 VA	0 VA			10	1	20 A	(E) LOAD	--
--	(E) LOAD	20 A	1	11					0 VA	0 VA	12	1	20 A	(E) LOAD	--
--	(E) LOAD	20 A	1	13	0 VA	0 VA					14	1	20 A	(E) LOAD	--
--	(E) LOAD	20 A	1	15			0 VA	0 VA			16	1	20 A	(E) LOAD	--
--	(E) LOAD	20 A	1	17					0 VA	0 VA	18	1	20 A	(E) LOAD	--
--	(E) LOAD	20 A	1	19	0 VA	0 VA					20	1	20 A	(E) LOAD	--
--	(E) LOAD	20 A	1	21			0 VA	0 VA			22	1	20 A	(E) LOAD	--
--	(E) LOAD	20 A	1	23					0 VA	0 VA	24				
--	(E) LOAD	20 A	1	25	0 VA	0 VA					26	3	15 A	(E) SPARE	1
--	(E) LOAD	20 A	1	27			0 VA	0 VA			28				
--	(E) LOAD	20 A	1	29					0 VA	0 VA	30	1	20 A	(E) LOAD	--
--	(E) LOAD	70 A	2	31	0 VA	0 VA					32	1	20 A	(E) LOAD	--
				33			0 VA	0 VA			34	1	20 A	(E) LOAD	--
--	(E) LOAD	20 A	1	35					0 VA	0 VA	36	1	20 A	(E) LOAD	--
--	(E) LOAD	15 A	3	37	0 VA	0 VA					38	1	20 A	(E) LOAD	--
				39			0 VA	0 VA			40	1	20 A	(E) LOAD	--
				41					0 VA	0 VA	42	1	20 A	(E) LOAD	--
					Phase A		Phase B		Phase C						
					0 VA		0 VA		0 VA						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
				Total Conn. Load:	0 VA
				Total Est. Demand:	0 VA
				Total Conn. Current:	0 A
				Total Est. Demand Current:	0 A

Panelboard Notes:
1. SPARE FREED UP AS PART OF DEMOLITION WORK.

Panel: M

Location: ROOM 013
Supply From: MDP
Mounting: SURFACE
Enclosure Type: NEMA 1

Distribution System: 208/120V
Phase: 3
Wire: 4

SCCR Rating: 10 kAIC
Mains Type: MCB
Mains Rating: 400 A
MCB Rating: 400 A

Note	Descriptions	Amps	Pole	CKT	A		B		C		CKT	Pole	Amps	Descriptions	Note
	CAB-1	20 A	1	1	1000 VA	3038 VA					2				
	CAB-4	20 A	3	3			1667 VA	3038 VA			4	3	50 A	PGW-1	
				5					1667 VA	3038 VA	6				
				7	1667 VA	3038 VA					8				
	CAB-8	20 A	1	9			1000 VA	3038 VA			10	3	50 A	PGW-2	
	CAB-9	20 A	1	11					1000 VA	3038 VA	12				
	CAB-10	20 A	1	13	1000 VA	7061 VA					14				
	CAB-11	20 A	3	15			1000 VA	7061 VA			16	3	100 A	HP-1	
				17					1000 VA	7061 VA	18				
				19	1000 VA	7061 VA					20				
	CAB-12	20 A	1	21			1000 VA	7061 VA			22	3	100 A	HP-2	
	ERV-1	35 A	1	23					3120 VA	7061 VA	24				
	FTRE-2	20 A	2	25	1250 VA	1667 VA					26				
				27			1250 VA	1667 VA			28	3	20 A	CAB-6	
	FTRE-3	20 A	2	29					1000 VA	1667 VA	30				
				31	1000 VA	875 VA					32	2	20 A	FTRE-1	
	FTRE-4	20 A	2	33			1500 VA	875 VA			34				
				35					1500 VA	584 VA	36				
	FTRE-5	20 A	2	37	600 VA	584 VA					38	3	30 A	HP-4	
				39			600 VA	584 VA			40				
--	SPARE	20 A	1	41					0 VA	2500 VA	42				
--	SPARE	20 A	1	43	0 VA	2500 VA					44	2	30 A	EUH-1	
--	SPARE	20 A	1	45			0 VA	0 VA			46	1	20 A	SPARE	--
--	SPARE	20 A	1	47					0 VA	0 VA	48	1	20 A	SPARE	--
--	SPARE	20 A	1	49	0 VA	0 VA					50	1	20 A	SPARE	--
--	SPARE	20 A	1	51			0 VA	0 VA			52	1	20 A	SPARE	--
--	SPARE	20 A	1	53					0 VA	0 VA	54	1	20 A	SPARE	--
					Phase A		Phase B		Phase C						
					33341 VA		31341 VA		34236 VA						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Motor	98919 VA	105.35%	104214 VA		
				Total Conn. Load:	98919 VA
				Total Est. Demand:	104214 VA
				Total Conn. Current:	275 A
				Total Est. Demand Current:	289 A

Panelboard Notes:

HGA

7475 Hubbard Avenue,
Suite 201
Middleton, WI 53562

ARCHITECTURE

HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

ELECTRICAL ENGINEER

HGA
333 E ERIE ST
MILWAUKEE, WI 53202
(414) 278-8200

**MECHANICAL/
PLUMBING ENGINEER**

HGA
7475 HUBBARD AVENUE
MIDDLETON, WI 53562
(608) 554-5333

**TOWN OF BAILEYS
HARBOR
GEOTHERMAL DESIGN**

2392 COUNTY F
BAILEYS HARBOR, WI 54202

WISCONSIN
KEVIN M. STANDLEE
E-42707
CEDARBURG
PROFESSIONAL ENGINEER
7/31/2025

NO	DESCRIPTION	DATE

ISSUANCE HISTORY - THIS SHEET

HGA NO: 5410-001-00

PANEL SCHEDULES

DATE: August 07, 2025

CONSTRUCTION DOCUMENTS

E500

Author 8/7/2025 10:39:22 AM Autodesk Docs://Bailey's Harbor_Geothermal Design_5410-001-00/E25_Bailey's Harbor Geothermal_5410-001-00.rvt